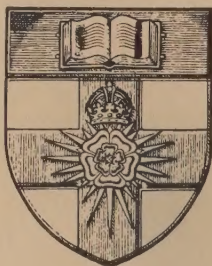
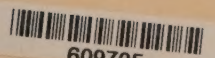
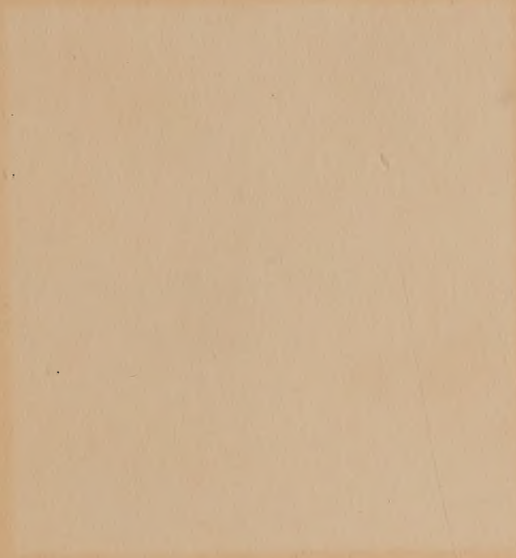


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FORTY-SEVEN VOLUMES.

— (19.) —

MISCELLANEOUS—*continued.*

Session

12 March 1894 — 25 August 1894.

VOL. LXIX.



1894.

ACCOUNTS AND PAPERS

FOR THE YEAR 1894

1894

1894/1895

1894

1894/1895

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ACCOUNTS AND PAPERS:

1894.

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Local Government Board, }
25 August 1894.

HUGH OWEN,
Secretary.

COPY of LETTER of Registrar General.

General Register Office,
Somerset House, London, W.C.,
25 August 1894.

Sir,

I UNDERSTAND that some Welsh Members of Parliament complain that, in a paragraph of my Report on the Census Returns of 1891, I imputed to the Welsh people untruthfulness, and charged them with having attempted to increase the numbers of those entered as speaking Welsh only, by fraudulently filling up their schedules.

I may point out that Mr. Fowler, in answering a question put by Mr. Stanley Leighton in February last, stated in the House of Commons that I had no evidence of persons having knowingly and wilfully made false returns in Wales in respect of the lingual Census taken in 1891. But if this statement is not considered satisfactory evidence of a wrong construction having been put upon the paragraph in the General Report of which complaint is made, I have not the slightest objection to confirm your statement, made on my behalf in the House of Commons on the 22nd instant, that I had no intention whatever to accuse the Welsh people of untruthfulness, or of a deliberate intention to make false returns.

What I did intend to convey by the paragraph referred to was this: that the people in certain districts in Wales had wrongly understood the requirements of the Schedule in the Census as meaning that when they spoke Welsh preferentially or habitually, but could also speak English more or less, they were justified in returning themselves as speaking Welsh only. It was intended that such cases should be regarded as bi-lingual, and entered as speaking both Welsh and English. I am quite aware that it is difficult to lay down any definite standard as to the degree of proficiency in speaking English which would warrant the entry under this head, and hence, no doubt, there has been misunderstanding.

I have, &c.

(signed) *Brydges P. Henniker,*
Registrar General.

The Right Hon. G. Shaw Lefevre, M.P.,
&c. &c. &c.,
Local Government Board.

CENSUS OF 1891.

COPY of EXPLANATORY LETTER of the Registrar
General of England and Wales relative to the
Census of 1891.

(Mr. Stuart Lefevre.)

Ordered, by The House of Commons, to be Printed,
25 August 1894.

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BY

THE CROFTERS COMMISSION

AS TO THEIR PROCEEDINGS

UNDER THE ACT 49 & 50 VICT. Cap. 29, THE ACT
50 & 51 VICT. Cap. 24, THE ACT 51 & 52
VICT. Cap. 63, AND THE ACT
54 & 55 VICT. Cap. 41.

FOR THE YEAR

From 31st DECEMBER 1892 to 31st DECEMBER 1893,

TO THE

SECRETARY FOR SCOTLAND.

Presented to both Houses of Parliament by Command of Her Majesty.



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REPORT

BY

THE CROFTERS COMMISSION

FOR THE YEAR FROM 31ST DECEMBER 1892 TO 31ST DECEMBER 1893.

TO THE

RIGHT HON. SIR GEORGE OTTO TREVELYAN, BART., M.P.,

Secretary for Scotland, &c.

We beg leave to present the following Report for the year from 31st December 1892 to 31st December 1893. 49 & 50
Vict. c. 29

The area included within the scope of our proceedings during this period may be described as follows:—We began with Sittings in Caithness in the month of February, where certain Applications for Compensation and for Resumption of Holdings awaited disposal. In March one of our number, with two Assessors, went to Ballachulish, where Applications from several estates were heard. After concluding the work there, Sittings were held by the same Commissioner at Corran, Ardgour, and afterwards at Fort William. Following upon these, he held inquiries at Strontian and Oban.

Another of our number, in the course of the Spring, held Sittings at Portree, Uig, Dunvegan, and Struan in Skye, and these were immediately succeeded by inquiries at Oban, Port Appin, and Taynuilt in Argyllshire. On completing our labours in these quarters, a visit was paid to Lochmaddy, North Uist, and investigations made in various cases of Enlargement of Holdings and Applications under the Grazings Act of 1891. 54 & 55
Vict. c. 41

Early in the month of June two Divisions of the Commission proceeded to Orkney, where Sittings were held at Kirkwall, and afterwards in the remote and somewhat inaccessible Island of North Ronaldshay. Applications were also dealt with in the Island of Flotta, and at St Margaret's Hope in the Island of South Ronaldshay, and again in Kirkwall, from the Island of Shapinshay and the mainland portion of Orkney.

In the course of July and August Orders were issued in a large number of Fair Rent, Enlargement, Compensation, and other cases, including several Applications under the Grazings Act.

In the beginning of September one Division of the Commission held inquiries at Inveraray, another in the Island of Islay. Similar proceedings thereafter took place at Lochgilphead, at Tighnabruaich on the Kyles of Bute, and at Carradale in Cantyre.

During October two Divisions of the Commission went to Sutherlandshire and held Sittings at Rogart and Helmsdale respectively.

In November we, as an Appeal Court, sat for the purpose of disposing of Appeals at Lochmaddy and at Creagorry, Benbecula.

We have not thought it necessary on the present occasion to deal so fully here with the various Orders issued as on former occasions. The text of these will be found in the Appendices, and attention may be invited to the following, viz. :—

In the County of Caithness, on the Estate of Rattar, an Application was made by Widow Jessie Gunn or Calder, on renunciation of her Holding, for Compensation in

respect of permanent improvements. The claim, as made, reached a total of £210. Objection was taken that the Applicant was not a Crofter. The objection was repelled, and on inspection of the subjects, and having regard to what the value of such improvements would have been worth to an incoming tenant in terms of the Act, the amount of compensation was assessed at the sum of £67, 10s., and the Applicant was awarded a sum in name of expenses.

On the Estate of Ulbster, in the same County, a similar Application was made by James Macdonald. The Applicant claimed a large sum, but it was contended for the Landlord that the improvements had been executed under a specific agreement in writing, the Applicant having bound himself to execute them in terms of a lease for fourteen years, which terminated in 1886. After inquiry, the claim for compensation in respect of improvements executed during the currency of the said lease was disallowed, but he was found entitled to compensation for improvements made after the expiry thereof. The value was assessed at the sum of £24, 2s. 8d.; but as the Applicant was due the Landlord the sum of £26, 13s. in name of arrears and expenses, it was agreed by parties that the one sum should be set against the other, and an Order finding no Compensation due and dismissing the Application was accordingly issued.

On the Estate of Keiss, the property of Mr Francis Tress Barry, M.P., an Application for compensation was lodged by John Leith. The amount claimed was £126, 15s. The Landlord offered £30 in full of all claims. After inquiry, the amount was fixed at £43; but as the sum tendered much more nearly approached the sum found due than the sum claimed, no expenses were found due to or by either party.

In the County of Orkney important Applications for Compensation on renunciation of tenancy were also disposed of. In particular, James Sinclair, Blowmuir, on the Graemeshall Estate, claimed the sum of £266, 16s. 7d. in respect of permanent improvements executed or paid for by him. The amount found due was assessed at £123.

In the Island of Shapinsay two similar claims were made, one for the sum of £393, 15s., restricted to £250, and the other for £55, 4s., restricted to £40. These, after inquiry, were ultimately given effect to so far as to award the sums of £126, 1s. and £14, 15s. respectively.

Another case of some importance occurred in the District of Cantyre, in the County of Argyll, where Neil Macdougall, a Cottar at Cour, Carradale, on the Estate of Mr C. Brodie Macallister, applied for compensation. Macdougall was, under a Decree of the Sheriff Court, ejected from his Holding by the Landlord on 14th June 1889, and on the following day his house and other buildings were demolished and removed. After various proceedings in the Court of Session, narrated in the Appendix, Macdougall, in September 1893, lodged an Application with the Commission claiming Compensation. After inquiry, we held that, though the buildings were demolished, and the improvements merged into the farm of Cour, the Applicant was, nevertheless, entitled to Compensation for these upon an assessment of what their value would have been to an incoming tenant had they been intact. The amount of Compensation fixed was £40.

An Application for Resumption in the County of Caithness, at the instance of Mr Thomson-Sinclair of Freswick, of part of a Holding to enable him to make a drain or ditch as a convenient discharge of water from another Holding, was opposed by the occupant, James Manson, on the ground that serious injury would result to his Croft from the construction of the drain through the same. It was found that the forming of such a drain would cause the banks to fall in from time to time, impede the flow of water, and otherwise injure his Croft. The Application was accordingly dismissed, but the Commissioner indicated that the water-course might be more advantageously constructed in another direction without interfering with the said Holding.

Attention may likewise be directed to the Application for Resumption by Captain T. M. Urquhart, Shipmaster, Leith, who craved to resume a Holding on the property of Gudon, East Yell, Shetland, for the purpose of building a dwelling-house thereon for himself and family, on his retiral from active life. He pleaded that his case came within the principle of the ruling in *Slater v. Esslemont* (Report for 1888, p. 177). The Respondents, George Jamieson and another, objected on the ground that the Applicant owned land adjoining the Holding applied for, as well as other property elsewhere, which would suit well for the purpose stated. We held that the ruling in the case quoted did not apply in the present instance, and that there was nothing to prevent the Applicant from enlarging a dwelling on the adjoining Croft, which had been occupied by his family in the previous year. Accordingly the Application was dismissed.

On the Estate of Glencoe, Argyll, the property of Mr A. H. Ballingall, as Trustee infest of the late Mrs Burns Macdonald and her husband, the question was raised whether a person was entitled to be a Crofter under the Act in respect of each of two separate Holdings.

An application was presented by Widow Margaret Macinnes, Tayphuirst, to fix a Fair Rent, but she died before it was heard. At the inquiry her eldest son and heir-at-law, John Macinnes, who was already a Crofter under the Act in respect of a Holding in the neighbouring Township of Carnoch, appeared and claimed to take up the succession to his deceased mother's Holding, and be deemed a Crofter in her room and stead. We held, on a sound construction of the Act, that he was not entitled to be deemed a Crofter in respect of two separate Holdings, and accordingly an Order was issued calling upon him to state which Croft he elected to hold under the Act. Thereupon he lodged a Minute deciding to remain on the Croft he occupied at Carnoch.

On the same Estate, in the case of John Cameron, Tayphuirst, it was held that a House of unusual size, formerly used as a School, and latterly as a Shop, store, and dwelling-house, having attached a piece of ground completely walled round, was not a Holding within the meaning of the Act.

A point of some peculiarity arose in the same township under the Application of Robert Macinnes. It was objected, on behalf of the Landlord, that the Applicant having entered into possession of the house at Whitsunday 1886, and of the land at the term of Martinmas following, he was not a Crofter in respect he was not tenant of an entire Holding at the passing of the Act. It was argued for the Applicant that he, having arranged with the out-going tenant to get possession of the land at Whitsunday, and this having been done with the cognisance and approval of the Landlord, he was entitled to be found and declared a Crofter. After inquiry, we held that the Applicant did not, in point of fact, get possession of the land till the term of Martinmas, but that the out-going tenant had the right of occupancy up to that term, and paid the rent therefor. Accordingly the Application was found incompetent, and the Applicant found not to be a Crofter within the scope and meaning of the Act.

Under the Fair Rent Application (Form 2) by the Crofters of Carnoch on the same Estate, the Landlord conceded an additional piece of Common Pasture extending to 106 acres upon certain conditions and stipulations which were accepted by the Applicants, and this extension fell to be taken into consideration in fixing the Fair Rents. A similar concession was made by the Earl of Morton to the Crofters of the township of Treslaig on his Estate of Conaglen. Prior to the Hearing, the tenants of that township had only a limited right of grazing 29 cows and followers and 1 pony on the pasture of 421 acres, the surplus grazing, as well as the wintering, being reserved to the Landlord. At the Hearing a Joint-Minute was lodged whereby the Landlord renounced this right of surplus grazing and wintering in favour of the Crofters. We interposed authority to the said Joint-Minute, and Fair Rents were fixed after taking this concession into account.

At Ballachulish we held that Quarrymen, working at the Slate Quarries, who had small plots of land, and who held their houses during their continuance in the employment of the Lessee of the Quarries, and paid their rents every six weeks, or on the expiry of a similar short period, were not Crofters within the meaning of the Act.

In the case of Donald Macdonald, Ruarach, Ardgour, it was objected, on behalf of the Proprietors, the Tutors of A. J. H. Maclean, that the Applicant's Holding was let to him during his continuance as a foxhunter in the employment of the Landlord. This objection, however, the Respondents failed to prove, and it was accordingly repelled, and the competency of the Application sustained.

While at Strontian, on the Estate of Sunart, the property of Sir Rodney S. Riddell, Bart., several Fair Rents were fixed by the parties mutually under section 5, and these were subsequently presented to us for confirmation. We accordingly interposed authority to the Agreements made.

On the same Estate an objection was taken to the Application of Alexander Macpherson, Ariundle, to have a Fair Rent fixed for his Holding, on the ground that it was not of the nature contemplated by the Act, in respect that the house at Ariundle formed the dwelling-house of the farm of that name, presently let in conjunction with the neighbouring farm of Drumintorran. The Respondent urged that the house at Ariundle ought to be available for the purposes of a dwelling in the event of the farm of Ariundle being let as a separate and distinct subject from Drumintorran. On inquiry, we found that the Applicant had been in possession of the House and Holding at Ariundle, as at present existing, since 1863, and that prior thereto the subjects had been occupied as a dwelling by the doctor of the district. In point of fact, no evidence was adduced to show that Ariundle Farm had been let separately from Drumintorran within living memory. Upon the whole matter we were satisfied that the Application was competent, and that the Holding came within the definition in the Act.

On the Estate of Inverae, Loch Fyne, a dispute arose as to the extent of the pasture rights and certain access thereto, in consequence of a portion having been fenced off and

made to form a part of the Farm of Inverac, let to a Farmer there. The Proprietrix, while not admitting the claim at the Hearing, subsequently lodged a Minute conceding it, and allowed access to the said pasture by means of gaps or passes made in the fences surrounding the same.

In the Island of Islay, under the Applications by John Cameron and sixteen others, Port Wemyss, a question arose analogous to that disposed of in our Report for 1891, page 153, as to tenants in the village of Plockton, Lochalsh, namely, whether the Applicants were not Crofters, but Village lotters. We found that the Applicants' lands were situated at some distance from the houses, and that each paid a separate rent for his house and land respectively. The Applicants were therefore held not entitled to the benefits of the Act, and their Applications were dismissed.

The same question arose in the case of Angus Ferguson and twelve others, Portmahaven, and accordingly an Order was issued to the same effect.

In Skye, on the Estate of MacLeod of MacLeod, it was objected to the Application of William Macleod, Kinloch, that the Applicant was a Leasholder, and not a Crofter, in respect he took up the succession to a Lease for fifty-seven years, from 1835, on the death of his uncle, Murdoch Macleod, who died thirty-seven years ago. We ascertained that the Applicant was not the heir-at-law of the said deceased; that the Croft was let to him by the Factor unconditionally; and also that the Applicant had been sequestrated in 1861, and proceedings for removal adopted against him in 1869 but not followed up; and accordingly, assuming the Applicant to have held under Lease at the date of his bankruptcy, we were of opinion that the proceedings in connection therewith had the effect of cancelling and terminating the same. The objection was therefore repelled, and the Applicant found to be a Crofter.

On the same Estate an Application by Murdoch Macrae, Roskill, to have a Fair Rent fixed, was acquiesced in by the Landlord, but the Crofters of the township of Harlosh lodged a Petition or Minute objecting thereto, on the ground that the Applicant occupied the Holding in question in virtue of his appointment as township herd, and that he held the same rent free till 1890, when a rent of £1 was levied by the Proprietor. The facts were proved as stated, and the Applicant was found not to be a Crofter, and the Application dismissed as incompetent.

During our inquiries in the Outer Hebrides on the Estate of Sir John Campbell-Orde, North Uist, an objection was taken to the Application of John Matheson, Tighary, on the ground that he paid no money rent for the subjects occupied by him, and had never been recognised as tenant of the same. It appeared from the evidence adduced that about fifteen years ago the then Factor introduced the Applicant into the Holding occupied by Archibald Maclellan, with a view to his performing Estate or other work, which was to be treated as part payment of debts due by Maclellan to the Landlord; but there was no evidence to show that the Applicant was accepted by the Landlord or his Factor as tenant of Maclellan's Holding, or any part thereof, or that he had paid any money rent therefor. The Application was accordingly found incompetent, and was dismissed.

In the neighbouring township of Houghary the Landlord objected to the Application of Mrs Maclellan and Colin Maclellan, on the ground that they were not heirs-at-law of the deceased Crofter, John Macdonald. The Applicants—a daughter and son-in-law of the deceased—produced a Renunciation by the heir-at-law, Alexander Macdonald, in their favour. It was ascertained that the heir-at-law, by letter of 30th May 1891 to the Respondent, agreed to take up the succession to the Holding, but failed to do so, and subsequently granted the Renunciation above-mentioned. It was held that this proceeding on his part was incompetent, and there being no evidence to show that the Applicants had made good any title to the Holding, the Application was dismissed with a reservation to the next heir to make a claim, if so advised.

A brief reference may be made to the case of Alexander Macdonald, Knockantorran, who lodged an Application to fix a Fair Rent for half of the Holding formerly occupied by Widow Angus Macdonald, deceased. It was objected that the Holding had already been dealt with as one subject in name of the said Widow. It was held that a Fair Rent having been already fixed for the entire Holding, we were precluded from thereafter dealing with a part of the same, and accordingly the Application was dismissed as incompetent.

A somewhat similar decision was arrived at in the case of William Mackintosh, Baleshare, who applied to have a Fair Rent fixed for one-third of the Holding occupied by the late John Robertson. It appeared that the Croft was previously dealt with by the Commission as one Holding occupied by one tenant, and it was held that the proposal to have the same now dealt with as divided into three separate Holdings, each having a separate tenant, without having the authority of the Landlord for such a division, could not be entertained, and the Application was therefore dismissed as incompetent.

An unusual point as to citation was disposed of in an Application by John Maclean, 50 & 51 Eboist, Skye, for an Order to prohibit the sale of the effects upon his Holding in respect of non-payment of rent in an action at the instance of the Landlord, MacLeod of MacLeod. Proceedings were adopted against the Applicant in the Small-Debt Sheriff Court, Portree, and he allowed decree in absence to pass against him on 6th October 1892. On 28th November he obtained a Sist in the same Court in common form, and thereafter applied to us to stay proceedings in terms of the Act of 1887. The point which arose was whether the "*induciæ* in the action" could be held to apply to proceedings under a Sist for rehearing in terms of the Small Debt Act. We were of opinion that they could not, and that the words "*induciæ* in the action" meant the *induciæ* in the original action, and not the *induciæ* in the subsequent Sist.

In North Ronaldshay, Orkney, which we reached by special charter of a steamer, we were favoured with unusually fine weather, and the cases were disposed of with the utmost dispatch. It may be mentioned that the common pasture there is of a different kind from that of any other district in the crofting area. The island is surrounded by a wall or dyke 6 feet high, and on the out or shore side of the dyke, sheep to the number of about 2000 are grazed. This shore pasture is very poor and scanty, the extent being only 271 acres, and the sheep feed principally on the tangle and other seaweed growing on the rocks. At lambing time the ewes and weakly sheep are transferred to a piece of green pasture within the dykes, and kept there until they regain strength, when they are sent to the shore for the remainder of the year. A list of the various pasture rights will be found in the Appendix.

A portion of this shore pasture, to the extent of 1 acre, was reserved to the Landlord for the erection of a Signal Station by the Admiralty.

While in Sutherlandshire the Commissioners were met with a number of march disputes, and controversies between the Crofters of neighbouring townships in regard to land in their occupation. These had to be dealt with and disposed of by special orders.

Dealing with Applications for Enlargement of Holdings granted, they were as follows:—

1. Certain Crofters on the Estate of Græmeshall in Orkney applied for Enlargement of their Holdings by having assigned to them a portion of the farm of Greenwall, extending to 34 acres of arable land. The Applicants had, in a previous year, presented an Application for Enlargement with reference to another portion of the said farm, which was refused on the ground of material damage to the letting value of the remainder, but this decision was subsequently appealed to the three Commissioners. The second Application bore to be alternative to the Application under Appeal, and in the statement of facts it was averred that if the one was granted and land assigned, the other would be withdrawn. Objection was taken to the second Application also on the ground of material damage. After inquiry and due inspection of the lands, the objection was repelled, and 27 acres of arable land were assigned to the Applicants; but they were ordained to erect certain fences in a substantial manner. The annual value of the land assigned was assessed at £13, 10s., divisible into five shares, each of the five Applicants taking one share.

2. In the County of Argyll the Tenants of the Townships of South Garvan and North Duisky, on the Estate of Conaglen, the property of the Earl of Morton, applied for Enlargement of their Holdings. At the Hearing the Respondent expressed his willingness to assign a certain portion of the lands asked for, and after conference a Joint-Minute was lodged for parties, to which the Commissioner interposed authority, and assigned to the Applicants, 13 in number, 93 acres of old croft land, and 1394 acres of pasture (over which latter they had already a partial right of grazing), and 317 acres of higher pasture land at a rent of £30 per annum, less £5 for proportion reserved to the landlord for non-applicants. The Applicants were ordained to erect certain fencing, and to have the same completed by Martinmas 1894; and failing the erection thereof by that term, reservation was made to refuse the Application absolutely in terms of the Joint-Minute.

3. On the same Estate twenty-five Crofters in the township of Blaich obtained, in terms of a Joint-Minute, in addition to a pasture of 1055 acres over which they had already a partial right of grazing, 1698 acres of higher hill pasture, and 51½ acres of vacant land, subject to various conditions as to fencing, &c. Entry was ordered to be given at Martinmas 1894, and the annual rent was fixed at £58, 2s., divisible among the Applicants in accordance with the allocation contained in the Schedule appended to the Application.

4. On the Estate of Sunart, Strontian, the property of Sir Rodney S. Riddell, Crofters in the township of Scotstown applied for Enlargement of their Holdings by having assigned to them a portion of the farm of Ariundle let conjointly with the farm of Drumintorran to Mr Angus Buchanan. It was opposed on the ground, *inter alia*,

of material damage to the letting value of the remainder of the farm, but at the Hearing the Applicants lodged a Minute restricting their Application to a right for each Applicant to graze one cow and follower on the land applied for. It was held that the Application as thus restricted was reasonable, and an Order was issued assigning to the Applicants this limited right of grazing at a rent of £1, 10s. each.

5. In the Island of Islay, seven Crofters in the township of Claddach, the property of Mrs Baker of Cladville, applied for Enlargement by having assigned to them the portion of the Farm of Cladville known as Meadow and Staille. After discussion at the Hearing, it was arranged by parties under a Joint Minute that another portion of the farm, consisting of grazing and moss land, and known as Caolabhain and Cailidh, should be substituted for the land applied for, and the Application was amended accordingly. An Order was subsequently issued, refusing the Application for the portion known as Meadow and Staille, and assigning the portion known as Caolabhain and Cailidh at a rent of £7 per annum, divisible among the Applicants equally, and under reservation to the cottars and others of the Village of Portnahaven of the right of cutting, winning, and away-carrying peats for fuel from the land assigned.

6. In the County of Inverness, on the Estate of Sir John Campbell-Orde, North Uist, an Application was presented by five Crofters at Lochmaddy for Enlargement of their Holdings by assigning certain land in the occupancy of the Proprietor. To this Application it was objected that the subject from which the land was proposed to be taken was of less annual value than £100 sterling, and therefore not available in terms of the Act. The objection was repelled, and a portion of the land applied for assigned to the Applicants in Enlargement of their Holdings.

7. In the Isle of Skye an Application by seventy-five Crofters on the Estate of Kilmuir, belonging to the Trustees of the late Mr G. A. Baird, was made for Enlargement. During the inquiry an agreement was lodged in process, in which the Respondents conceded the claim of the Applicants upon certain conditions therein mentioned. To these the Applicants agreed, and an Order was subsequently issued assigning to the Crofters a portion of the farm of Monkstadt extending to 135 acres green pasture and 806 acres hill pasture, being 941 acres in all, at an annual rent or value of £70, 17s. 6d., divisible into shares as shown in the Schedule to be found in the Appendix.

8. On the same Estate, in an Application by thirty-one Crofters in the Townships of Brogaig, Glasphein, and Digge, an Agreement in similar terms to that in the immediately preceding case was lodged, and an Order was issued assigning to the Applicants 715 acres of pasture at a rent of £22 sterling per annum.

9. In the County of Sutherland, on the Estate of Skibo, presently in the possession of Mr George Auldjo Jamieson, C.A., Edinburgh, as Trustee of Mr Evan Charles Sutherland, twenty-five Crofters from the Townships of Acharry Muir, &c., were assigned 2645 acres of pasture in Enlargement of their Holdings at a rent of £45 per annum.

10. In the County of Ross and Cromarty, ten Crofters in the township of Altnasuth, Lochalsh, the property of Sir Kenneth J. Matheson, applied for Enlargement of their Holdings by taking those parts of the farm of Conchra locally known as Meall-na-Peighinn and Fank Park. Objection was raised on behalf of the Landlord on the ground of material damage to the letting value of the remainder of the farm, but he indicated his willingness to concede the portion known as Meall-na-Peighinn, extending to 83 acres or thereby, and further, to supply the necessary materials for fencing the same from the rest of the farm. After inquiry and inspection, it was found that to assign the portion known as Fank Park would operate material damage within the meaning of the Act, but that the portion called Meall-na-Peighinn might be assigned without such damage, and accordingly an Order was issued assigning the same, at a rent of £8, 8s. divisible into twelve shares, of which two were reserved to the Landlord for non-Applicants.

Passing to Applications refused, these are as follows :—

11. In the County of Argyll, an Application by certain Crofters on the said Estate of Ardgor applied for Enlargement by taking land from the Farm of Sallachan. An objection was raised on the ground of material damage to the letting value of the remainder of the farm. After due inspection, we were of opinion that if the land applied for were cut off from the farm, the latter would be deprived of a portion of ground indispensable for sheep and other stock during severe weather, and that this would constitute material damage within the meaning of the Act. The Application was accordingly dismissed.

12. An Application for Enlargement by five Crofters in Balemartin, North Uist, the property of Sir John Campbell-Orde, was made for a portion of the farm of Balelone. The Respondent objected to the competency of the same on the ground that he was not proprietor of the subjects, having disposed the same to his eldest son, Mr Arthur John

Campbell-Orde. The Respondent was ordained to produce the alleged Conveyance in support of his objection, but failed to do so, and instead lodged a document purporting to be a draft thereof. This, we held, was not sufficient to support the objection, and it was accordingly repelled. At the same time we were of opinion that the land applied for was not available land within the meaning of the Act; and further, that even in the event of it being assigned the Applicants were not able to stock the same. The Application was therefore refused.

13. On the same Estate an Application was made by five Crofters in the township of Illeray for a neighbouring Croft or Holding known as Vorogay Island. We held that it was incompetent to grant an Enlargement by assigning to Crofters a neighbouring vacant Croft, except under Section 16 of the Act, which did not apply to this case. The Application was refused.

14. An Application by eleven Crofters in the Island of Bernera, Harris, belonging to the Trustees of the Earl of Dunmore, was refused, on the ground that the annual letting value of the Farm of Borge, of which the Subjects applied for formed part, was less than £100, and therefore struck at by Section 13 (3) (c) of the Act.

15. An Application by certain Crofters in Upper and Lower Milivaig for a portion of the Farm of Dibydale known as Waterstein, was refused on the ground that the Applicants were unable properly to cultivate or stock the land if assigned.

16. In the Island of Benbecula three Applications for Enlargement by Crofters in the townships of Dungannachy, Gramisdale and Balivanich were dismissed, on the ground that if the land were assigned it would cause material damage to the letting value of the remainder of the farm of Nunton.

17. In Skye five Crofters in the township of Heatherfield, in the Parish of Portree, applied to have assigned to them a right to share in the common pasture of the neighbouring township of Peneffler to the extent of one cow's grass each. On inquiry, we found that though the Application ostensibly bore to ask for participation in this grazing, it was in reality a demand for the exclusive use of as much grass as would summer-graze one cow for each Applicant. An Application of this kind we held was incompetent, as, though the Commission have power to admit Crofters who have applied for Enlargement to a Landlord, under Sections 11 and 12 of the Act, to participate in pasture in common with other Crofters, an Application under these Sections to the Commission must follow upon an Application to the Landlord which had been met with a refusal. In the present case no such Application to the Landlord had been made, and accordingly it was not open to accede to the claim. The Application was therefore dismissed.

18. In the County of Ross and Cromarty, ten Crofters from the Township of Annat, on the Estate of Bendamph belonging to the Earl of Lovelace, applied for Enlargement by taking a portion of the said Estate, called Annat Park. It was objected that the Application could not be granted without impairing the amenity of the residence known as Bendamph Lodge, and was consequently struck at by Section 13 (3) (d) of the Act. On inspection, we were satisfied of the force of this objection, and the Application was refused.

In addition to the Applications for Enlargement above-mentioned which were granted, certain Crofters of Island Flodday, Benbecula, applied for Enlargement by taking land locally known as Rudha-Dubh, from the Farm of Nunton, extending to 96 acres or thereby. Objection was taken mainly on the ground of material damage to the letting value of the remainder of the farm. After inquiry and due inspection, we found that the Application was reasonable and repelled the objections; but also found that before any assignment could be made of the said portion of land, it was necessary that an existing turf dyke should be repaired, and also that a ditch be cut with a turf dyke erected on the margin. Accordingly, an Order was issued ordaining the Applicants to lodge a Minute within three months, stating whether they undertook to repair the said dyke and cut the ditch and erect a dyke as required.

While it appears from the foregoing that a large number of localities throughout the crofting area were visited during the year, the number of Applications heard and disposed of was less than in preceding years. A variety of causes contributed to bring about this result. Foremost amongst these is the circumstance that one of our number, the Chairman of the Commission, was engrossed during almost the whole year with his duties in connection with the Royal Commission (Highlands and Islands, 1892), so that the work done by this Commission was carried through by two of our number instead of three. In the next place, it ought to be explained—as was done in the Report of last year—that many of the Crofts dealt with were extremely scattered, and were often of considerable extent. Besides, in some of the more remote districts, which took a considerable time to reach and return from, only a few cases were available for hearing and disposal. In the last place, and particularly as to Appeals, the

number heard, compared with the number arranged and intended to be heard, was small, owing to the extreme severity of the weather prevailing in the Hebrides during the months of November and December, weather so inclement and boisterous as often to render travelling, and indeed any outside work, impossible. Thus when we, as an Appeal Court, set out for the Western Islands towards the middle of November, it was intended to deal with the whole of the Appellate work awaiting our attention in the Island of Eigg, in Harris, North Uist, South Uist, Benbecula and Barra. But in consequence of continuous storms, and the great irregularity of steamers, we were reluctantly compelled to curtail this programme and rest satisfied with hearing Appeals at Lochmaddy and in Benbecula, leaving the Eigg and Barra cases undisposed of. Final Orders disposing of the Appeals from Benbecula have been issued, and the principal results are contained in the Appendix. In course of the inquiry under the North Uist Appeals, however, it became necessary to issue an interim Order with reference to the Exchequer Fees payable by the Appellant, Sir John Campbell-Orde. Accordingly, Final Orders in these Appeals could not be issued before the close of the year. The said Appeals, however, fall to be finally dealt with early in 1894. After quitting the Outer Islands, an endeavour was made to dispose of the Appeals in the Lochalsh district of the County of Ross, but owing to a severe snowstorm this endeavour had also to be abandoned. It may be explained that a number of the cases we heard on Appeal were of importance, and it was matter of satisfaction to us that we found ourselves able to deal with them this year.

In the Applications for Enlargement disposed of in the course of the year, land was assigned to 212 Applicants, while the number to whom Enlargement was refused was 117, and withdrawn 29, making an aggregate of 358.

The total number of Fair Rent Applications disposed of in the same period is 1287, and the total number of Fair Rents fixed 1012. The difference of 275 cases is, as last year, explained by the fact that in some quarters there were numbers of duplicates, and in others certain Applicants, being sub-tenants, were held not to be Crofters. The details of these Applications will be found in the Appendix.

50 & 51
Vict. c. 24.

49 & 50
Vict. c. 29. The total number of Applications (Form 9) for Prohibitory Orders, under the Act of 1887, dealt with is 37; and for Sists (Form 8), under the Act of 1886, the total number dealt with is 6.

54 & 55
Vict. c. 41.

The total number of Applications lodged under the Crofters Common Grazings Regulation Act, 1891, is 25. The total number disposed of, including some lodged in the previous year, is 27.

The number of Appeals which await Hearing in the various Counties is as follows:—

Argyll,	52
Inverness,	27
Ross and Cromarty,	388
Sutherland,	107
Caithness,	3
Orkney,	27
Shetland,	79

Making a Total of 683

As in former Reports, a full set of Tables will be found in the Appendix, setting forth, in a variety of forms, the details of our procedure and other relative matters within the crofting area.

(Signed)

DAVID BRAND.

W. HOSACK.

P. B. MACINTYRE.

WILLIAM MACKENZIE,

Secretary and Principal Clerk.

EDINBURGH, 30th December 1893.

CROFTERS COMMISSION.

APPENDIX.

ВЪВЕДЕНІЕ.

APPENDIX.

I.—FAIR RENTS FIXED, AND ARREARS DEALT WITH, BY THE CROFTERS COMMISSION, FOR THE YEAR ENDING

31ST DECEMBER 1893.

APP. A (1)—COUNTY OF ORKNEY—CROFTING PARISHES OF HARRY AND BIRSAV, STRONSAY AND EDAY, AND SOUTH RONALDSHAY AND BURRAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holdings.			In Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Onrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
					Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1	Zetland (Marquis of Zetland, Proprietor)	1889 Mar. 1	Alexander Rust .	Commons (Birsay)	30 - -	133 - -	None	None	8 12 0	8 12 0	30 19 0	30 19 0	...	Arrears payable in two instalments of £20 & £10 19s.
2	Eday (H. C. Henderson, Proprietor)	1887 June 7	James Shearer *	Mansboat (Eday)	4 1 -	3 -	"	"	4 10 0	2 15 0	...	...	...	
3	Melsetter (J. G. M. Heddlie, Proprietor)	Apr. 20	John Walls .	Aikers (South Ronaldshay and Buray)	12 3 -	5 - -	"	"	3 10 0	2 0 0	21 5 0	6 0 0	15 5 0	Three yearly instalments of £2 each
4	"	"	William Deerness .	"	30 2 -	16 2 -	"	"	21 6 0	17 15 0	33 2 6	12 0 0	21 2 6	Three " £4 "
5	"	"	William Deerness Norquay	"	24 2 -	11 2 -	"	"	13 0 0	10 0 0	26 0 0	8 0 0	18 0 0	Three " £3, £3 & £2
6	"	"	Alexander Leith .	Kirk	36 2 -	6 2 -	"	"	23 0 0	15 0 0	57 10 0	9 0 0	48 10 0	Three " £3 each
7	"	"	Margaret Cronarty or Thomson	"	48 2 -	9 - -	"	"	30 0 0	23 0 0	45 0 0	3 0 0	42 0 0	One Sum at Martinmas 1893.
8	"	1889 Mar. 1	David Thomson .	"	15 - -	3 - -	"	"	3 0 0	2 12 0	3 0 0	1 0 0	2 0 0	One "
9	"	1887 Apr. 20	Jane Horne or Sinclair	Staws .	29 - -	10 - -	"	"	14 0 0	9 10 0	32 0 0	5 0 0	27 0 0	Two yearly instalments of £2 10s. each
10	"	1889 Feb. 6	James Norquay .	"	32 - -	10 - -	"	"	14 0 0	9 10 0	15 0 0	...	15 0 0	
11	"	1887 Apr. 20	James Annal .	Nether Lythes	37 - -	4 - -	"	"	23 0 0	16 0 0	84 0 0	32 0 0	52 0 0	Three " £12, £10 & £10
12	"	"	Samuel Christie .	Mowquoy .	25 - 37	8 - -	"	"	12 10 0	10 10 0	25 5 0	12 0 0	13 5 0	Three " £6, £3 & £3

APP. A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF SOUTH RONALDSHAY AND BURRAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.	Arrears.	Cancelled.	Observations.
					Arable.	Outrun.	Common Pasture.							
13	Melsetter (J. G. M. Heddie, Proprietor)	1887 Apr. 20	John Taylor	Gannons Park	Ac. Ro. Po. 18 - -	Ac. Ro. Po. 14 - -	Aores None	£ s. d. 7 12 0	£ s. d. 4 10 0	£ s. d. 11 9 0	£ s. d. 11 9 0			
14	"	"	William Sinclair.	Muckhouse.	30 - -	25 - -	"	23 5 0	16 15 0	93 12 6	50 0 0	43 12 6		Arrears payable in three yearly Instalments of £20, £15 & £15
15	"	1889 Jan. 16	John Sinclair	Braeland	8 - -	2 - -	"	6 10 0	4 14 0	19 5 0	8 0 0	11 5 0		Three " £3, £3 & £2
16	"	"	Magnus Cromarty	Whistlebrae.	48 - -	6 2 -	"	14 15 0	12 4 0	37 0 0	24 0 0	13 0 0		Three " £10, £7 & £7
17	"	Feb. 6	John Cromarty	Berston	26 2 -	10 2 -	"	15 0 0	11 10 0	19 4 0	5 0 0	14 4 0		Two " £3 & £2
18	"	Mar. 1	Duncan Macdonald	Moss of Cletts	6 1 -	- - -	"	8 10 0	2 0 0	3 10 0	...	3 10 0		Three " £15 each
19	"	"	James Thomson	Rockerskill	25 3 -	5 - -	"	17 15 0	13 10 0	79 17 6	45 0 0	34 17 6		
20	"	"	Christina Mowat or Gunn	Herston	1 - 28	- - -	"	4 0 0	3 0 0	5 0 0	...	5 9 0		
21	"	1887	James Mackenzie	"	1 2 -	- - -	"	4 16 0	4 0 0	3 0 0	...	3 0 0		
22	"	Apr. 20 1888	Henry Norquoy	Quoyaden	13 2 -	12 - -	"	10 5 0	6 5 0	17 12 6	...	17 12 6		
23	Massater (Miss Turnbull Stewart, Proprietrix)	Sept. 15	Peter Annal	East Massater	30 - -	16 2 -	"	15 0 0	10 6 0	26 10 0	3 0 0	23 10 0		One Sum at Martinmas 1893.
24	"	1889 Feb. 6	Robert Annal	"	37 2 -	8 1 -	"	15 0 0	12 15 0	22 10 0	10 0 0	12 10 0		Three yearly Instalments of £4, £3 & £3
25	"	Jan. 16	Robert Annal	Greenvale	6 - -	20 - -	"	3 0 0	2 0 0	9 0 0	3 0 0	6 0 0		Two " £1 10s. each
26	"	Feb. 6	John Mowat	Sniddy Croft	3 2 -	2 2 -	"	1 0 0	1 0 0	0 10 0	0 10 0	...		One Sum at Martinmas 1893.
27	"	"	James Matches	Grindally	10 - -	3 - -	"	4 0 0	3 10 0	12 0 0	7 0 0	5 0 0		Three yearly Instalments of £3, £2 & £2
28	"	Mar. 1	William Taylor	Quoygreen	3 - -	1 - -	"	2 15 0	2 5 0	1 7 6	...	1 7 6		
29	"	"	William Thomson	Gossigar	6 2 -	1 - 16	"	1 0 0	1 10 0	0 10 0	0 10 0	...		One Sum at Martinmas 1893.
30	"	1890 Apr. 18	James Annal	Greenquoy	4 - -	14 2 -	"	1 0 0	1 5 0	0 10 0	0 10 0	...		One " "
31	"	"	Thomas Dunnet	Lythe	57 2 10	24 - -	"	27 10 0	21 10 0	13 15 0	...	13 15 0		
32	"	"	Marcus Gunn	Quoyball	9 - 36	4 - -	"	5 10 0	3 10 0	7 15 0	...	7 15 0		

APP A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF SOUTH RONALDSHAY AND BURRAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
					Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
33	Masseter (Miss Turnbull Stewart, Proprietrix)	1890 Apr. 18	Peter Linklater .	Greenquoy .	3 - -	3 2 -	None	None	£ 1 0 0	£ s. d. 1 0 0	£ s. d. 0 10 0	£ s. d. 0 10 0	£ s. d. ...	Arrears payable in one Sum at Martinmas 1893.
34	"	"	John Leith .	Cellardyke .	35 3 33	10 - -	"	"	12 0 0	9 15 0	12 0 0	5 0 0	7 0 0	Two yearly Instalments of £3 & £2
35	"	"	John Matches .	Osqouy .	28 3 36	20 - -	"	"	12 0 0	9 0 0	6 0 0	...	6 0 0	
36	"	"	James Matches .	Quoyloo .	8 - -	6 3 3	"	"	2 0 0	2 0 0	1 10 0	1 10 0	...	One Sum at Martinmas 1893.
37	"	"	George Norquoy .	Lyrowell .	14 - -	9 - -	"	"	2 10 0	3 0 0	3 15 0	3 15 0	...	Two yearly Instalments of £2 & £1 15s.
38	"	"	Mrs Margaret Matches or Nicolson	West Massater	39 - -	21 1 20	"	"	24 0 0	16 10 0	28 15 0	5 0 0	23 15 0	Two "
39	"	"	Mrs Betsy Wishart or Spence or Baikie	Quoy of Herston	10 - -	35 - -	"	"	5 0 0	5 0 0	2 10 0	2 10 0	...	One Sum at Martinmas 1893.
40	"	"	George Tomison .	Greenquoy .	2 - -	3 - -	"	"	1 0 0	1 0 0	...	...	...	"
41	Leakage (John Thomson, Proprietor)	1889 Jan. 16	Margaret Groat or Robertson	Grimness .	3 - -	- - -	"	"	2 0 0	1 10 0	5 0 0	1 10 0	3 10 0	One "
42	Smiddybanks (Henry Banks, Proprietor)	1893 June 7	Peter Bruce .	Ronaldsvoe .	19 2 -	5 2 -	"	"	11 0 0	9 0 0	22 10 0	20 10 0	2 0 0	Two yearly Instalments of £12 & £8 10
43	Serrigar (William Denison, Proprietor)	1889 Oct. 28	James Halcrow .	Sandwick .	3 2 -	12 2 -	"	"	2 0 0	1 5 0	3 0 0	...	3 0 0	
44	Zetland (Marquis of Zetland, Proprietor)	Feb. 6	James Thomson .	Head .	35 2 -	- - -	159	1	16 0 0	10 10 0	95 0 0	45 0 0	50 0 0	Four "
45	"	1888 Apr. 9	John Annal .	Stone .	32 - -	23 - -	Divided into 5 shares & dealt with.	1	15 0 0	9 10 0	57 10 0	24 0 0	33 10 0	Three "
46	"	1889 Oct. 28	James Wishart .	Budge of Linklater	33 - -	21 - -		1	13 0 0	10 5 0	43 10 0	25 0 0	18 10 0	Three "
47	"	1888 Aug. 13	James Stewart .	Hall of Lihk-later	37 - -	23 - -		1	18 0 0	13 8 0	71 0 0	40 0 0	31 0 0	Four "
48	"	1889 Mar. 1	John Windwick .	Quoyorralny	11 - -	4 8 4	None	None	4 0 0	3 0 0	18 0 0	6 0 0	12 0 0	Three "

APP. A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF SOUTH RONALDSHAY AND BURRAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			In Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.	
49	(Zetland Marquis of Zetland, Proprietor)	1889 Jan. 16	William Duncan	South Flaws	40 1 4	Ac. Ro. Po. 3 1 -		None	£ s. d. 22 0 0	£ s. d. 16 10 0	£ s. d. 43 0 0	£ s. d. 16 10 0	£ s. d. 26 10 0	Arrears payable in three yearly Instalments of £8, £6 & £4 10s.
50	"	Feb. 6 1888	James Brown	North Flaws	50 - -	28 - -		"	22 0 0	16 10 0	59 9 0	30 0 0	29 9 0	Three " £10 each
51	"	Aug. 17	William Gray	Windwick	18 - -	3 - -		"	10 10 0	7 10 0	32 19 6	14 0 0	18 19 6	Three " £5, £5 & £4
52	"	Dec. 1 1892	Magnus Halcrow	"	6 2 - -	4 - -		"	4 0 0	2 10 0	16 0 0	5 0 0	11 0 0	Three " £2, £2 & £1
53	"	Oct. 31 1887	John Anna Dunnet	"	6 - -	5 - -		"	3 0 0	2 10 0	9 10 0	3 0 0	6 10 0	Two " £2 & £1
54	"	Apr. 20 1889	Donald Mowat	Isbister	26 - -	76 - -		"	17 0 0	10 12 0	50 10 0	10 12 0	39 18 0	Two " £5 6s. each
55	"	Mar. 1 1892	Archibald Cromarty	Gossiger	46 - -	22 - -		"	25 10 0	16 16 0	65 15 0	20 0 0	45 15 0	Three " £8, £6 & £6
56	"	Nov. 23 1889	James Duncan	Holland	16 2 - -	3 - -		"	3 0 0	3 0 0	6 10 0	3 0 0	3 10 0	Two " £2 & £1
57	"	Feb. 6 1888	Robert Thomson	Greystone	26 - -	- - -		"	13 0 0	9 15 0	35 15 11	15 0 0	20 15 11	Three " £5 each
58	"	Aug. 13	Donald Duncan	Liddle	15 - -	20 - -		"	10 0 0	6 0 0	38 15 0	14 0 0	24 15 0	Three " £5, £5 & £4
59	"	17 1893	James Rosie	Banks	24 - -	45 - -		"	12 0 0	7 16 0	33 10 0	12 0 0	21 10 0	Three " £4 each
60	"	June 8 1888	Donald Thomson	Crook	24 - -	23 3 1		"	6 10 0	5 6 0	7 0 0	3 0 0	4 0 0	One Sum at Martinmas 1893
61	"	May 14 1893	Sinclair Manson	Cleat	15 - -	6 - -		"	10 0 0	8 0 0	34 0 0	14 0 0	20 0 0	Three yearly Instalments of £6, £5 & £4.
62	"	May 31 1887	John Duncan	"	15 - -	21 - -		"	7 0 0	5 10 0	4 10 0	...	4 10 0	
63	"	Sept. 20 1889	George Cursiter	Nether Gera	22 - -	- - -		"	18 0 0	12 0 0	43 17 6	7 0 0	36 17 6	Two " £4 & £3
64	"	Apr. 10	William Mowat Brown	Quoyboon	27 - -	5 - -		"	10 10 0	7 10 0	5 5 0	...	5 5 0	
65	"	Oct. 28 1893	Andrew Thomson	Newquoy	1 3 8	10 1 -		"	1 0 0	1 0 0	3 10 0	1 0 0	2 10 0	One Sum at Martinmas 1893
66	"	June 1 1888	Williamina Rushland	Common	3 1 - -	- - -		"	1 0 0	1 0 0	3 0 0	1 0 0	2 0 0	One " "
67	"	Jan. 30 1889	Robert Brodie	Limbo	13 2 - -	1 2 - -		"	7 10 0	4 16 0	24 15 0	8 0 0	16 15 0	Three yearly Instalments of £3, £3 & £2
68	"	Jan. 16	John Dass Cronarty	Mucklenyre	20 - -	4 - -		"	14 0 0	11 0 0	67 0 0	33 0 0	34 0 0	Four " £10, £8, £8 & £7
69	"	"	James Budge	Hotit	14 3 4	1 - -		"	7 0 0	5 10 0	18 10 0	9 0 0	9 10 0	Three " £3 each
70	"	Feb. 6	Widow Jane Wishart or Simison	Barswick	45 - -	25 3 14		"	20 0 0	16 5 0	44 13 4	22 0 0	22 18 4	Three " £8, £8 & £8

APP. A (1)—COUNTY OF ORKNEY (continued)—CROFTING PARISH OF SOUTH RONALDSHAY AND BURRAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Ag. Ro. Po.	Common Pasture.			Total Amount.	Ordered to be Paid.	Cancelled.	
71	Zetland (Marquis of Zetland, Proprietor)	1889 Feb. 6	William Petrie	Quindry	4 2	10	1	None	£ 3 0 0	£ 2 10 0	£ 5 10 0	£ 2 10 0	£ 3 0 0	Arrears payable in two yearly instalments of £1 5s. each
72	"	"	Edward Louttit	Cloudie	10	1	1	"	5 10 0	3 10 0	18 5 0	8 0 0	10 5 0	Three " £3, £3 & £2
73	"	"	James Robertson	Gimps	13	1	2	"	7 0 0	5 10 0	17 10 0	8 0 0	9 10 0	Three " £3 £3 & £2
74	"	Jan. 16 1893	Robert Sinclair	Widewall	4 2	1	1	"	4 0 0	3 0 0	12 0 0	5 0 0	0 0	Two " £2 10s. each
75	"	June 9 1889	Peter Esson	"	27	1	17	"	3 0 0	3 15 0	8 0 0	8 0 0	...	Three " £3, £3 & £2
76	"	Oct. 28	James Sutherland Peebles Ross	Hoxa	3 3	1	1 3	"	2 0 0	2 0 0	5 0 0	5 0 0	...	Three " £2, £2 & £1
77	"	"	Gilbert Budge	"	6 2	7	7	"	2 5 0	2 10 0	4 10 0	4 10 0	...	Two " £2 10s. & £2
78	"	"	Robert Thomson Budge	"	24	1	1	"	8 0 0	7 0 0	23 0 0	21 0 0	7 0 0	Three " £7 each
79	"	1892 Jan. 27	Alexander Petrie	"	18	2	2	"	1 10 0	3 0 0	0 15 0	0 15 0	...	One Sum at Martinmas 1893
80	"	1889 Feb. 6	James Berston	Toftsurie, Grimness	14	1	3	"	3 0 0	4 10 0	33 0 0	12 0 0	21 0 0	Three yearly Instalments of £4 each
81	"	Mar. 1	Betsy Thomson or Linklater	Brance, "	44 1 17	1	1	"	15 0 0	13 10 0	70 10 0	35 0 0	35 10 0	Four " £10, £9, £8 & £8
82	"	1893 May 31	Archibald Mackenzie	Common	3	1	24	"	2 0 0	1 10 0	5 0 0	1 10 0	3 10 0	One Sum at Martinmas 1893.
83	"	June 1	Samuel Sinclair	"	25 2	2	28	"	2 10 0	4 10 0	8 15 0	8 15 0	...	Four yearly Instalments of £3, £2, £2 & £1 15s.
84	"	"	William Gatcher	"	16	1	16	"	2 10 0	3 0 0	15 15 0	6 0 0	9 15 0	Three " £2 each
85	"	1888 Jan. 23	James Sinclair	Leirday, Burray	24	1	2 36	"	15 0 0	13 0 0	49 2 8	24 0 0	25 2 8	Four " £6 "
86	"	"	James Cumming	Sutherland	24	1	3 20	"	15 0 0	10 10 0	62 10 0	30 0 0	32 10 0	Three " £10 "
87	"	"	Alexander Ross	Westshore	9 2	1	2	"	6 10 0	5 10 0	32 15 0	15 0 0	7 15 0	Three " £5 "
88	"	Mar. 8	Donald Duncan	Sutherland	24 2	1	2	"	15 0 0	10 10 0	42 10 0	10 0 0	32 10 0	Two " £5 "
89	"	"	David Johnston	Ourigar	9 3	1	1	"	8 0 0	5 0 0	16 0 0	...	16 0 0	Two " £2 "
90	"	1889	Elizabeth Woolridge	Westhill	4	1	2 19	"	2 10 0	2 10 0	8 15 0	4 0 0	4 15 0	Two " £2 "
91	"	Jan. 16	David Heddie	Commons	2 2	1	1 33	"	2 0 0	1 10 0	7 0 0	3 0 0	4 0 0	Two " £1 10s.

* Has also half the grazing of Hoxa Head.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.
					Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	
92	Zetland (Marquis of Zetland, Proprietor)	1889 Jan. 16	George Laird	Faulds (Burray)	7 3 -	- 1 -	None	None	3 10 0	2 10 0	13 15 0	6 0 0	Arrears payable in three instalments of £200 each
93	"	"	James Sinclair	Nap	5 - -	3 2 16	"	"	2 10 0	1 10 0	9 0 0	3 0 0	Two " £1 10s. "
94	"	"	Matthew Park	Nes	8 3 -	1 - 14	"	"	2 0 0	2 0 0	7 0 0	4 0 0	Two " £2 "
95	"	"	George Petrie	Wart	7 - 20	2 3 12	"	"	1 12 0	2 0 0	4 0 0	4 0 0	Two " £2 "
96	"	Apr. 10 1890	William Swanney	Stoneyfield	2 1 24	1 3 11	"	"	1 0 0	1 0 0	8 9 0	4 0 0	Two " £2 "
97	"	Jan. 20 1892	William Petrie	Commons	2 - -	9 1 23	"	"	1 0 0	0 15 0	8 10 0	4 0 0	Three " £2, £1 & £1
98	"	Nov. 23 1893	Magnus Wylie	Hillhead	7 2 23	1 - -	"	"	2 0 0	2 5 0	5 0 0	5 0 0	Three " £2, £2 & £1
99	"	May 31	James Rosie	Slap	5 3 14	- - -	"	"	1 0 0	1 5 0	1 16 0	1 10 0	One Sum at Martinmas 1893
100	"	"	John Guthrie	Lockhouse	8 - 20	- - -	"	"	2 0 0	2 0 0	7 0 0	7 0 0	Three yearly Instalments of £3, £2 & £2
101	"	"	James Wylie	Outlook	7 - -	9 1 16	"	"	0 10 0	1 0 0	1 5 0	1 5 0	One Sum at Martinmas 1893
102	"	"	John Budge	Westhill	4 - -	18 - 36	"	"	0 15 0	1 5 0	0 7 6	0 7 6	One " "
103	"	"	Andrew Sutherland	Millhouse	10 - -	10 - 3	"	"	1 0 0	2 0 0	0 10 0	0 10 0	One " £1 10s. "
104	"	"	Robert Mackay	Stovebreck	4 2 3	- - -	"	"	1 5 0	1 10 0	1 17 6	1 17 6	One " "
105	"	"	Samuel Anderson	Hill	4 - -	1 2 8	"	"	0 10 0	1 0 0	1 5 0	1 5 0	One " "
106	"	"	John Wylie, senior	"	4 1 3	- - -	"	"	1 0 0	1 0 0	11 10 0	6 0 0	Three yearly Instalments of £10, £2 ea
107	"	"	John Wylie, junior	"	4 2 -	2 2 22	"	"	1 0 0	1 0 0	2 0 0	2 0 0	Two " £1 "
108	"	"	David Bruce	Southhouse	6 - 22	- - -	"	"	0 15 0	1 0 0	1 2 6	1 2 6	One Sum at Martinmas 1893
109	"	"	Peter Wylie	Springs	6 - -	1 2 32	"	"	1 0 0	1 0 0	3 10 0	1 0 0	One " "
110	"	"	James Robertson	Greenvale	6 2 19	- - -	"	"	1 0 0	1 0 0	2 10 0	2 10 0	Two yearly Instalments of £1 10s. & £1
111	"	"	Eric Laird	Sheepquoy	12 12 25	21 1 14	"	"	0 15 0	1 10 0	0 7 6	0 7 6	One Sum at Martinmas 1893
112	"	"	William Sinclair	Commons	3 2 25	- - -	"	"	0 5 0	0 10 0	0 7 6	0 7 6	One " "
113	"	"	William Laird	Windhall	5 - -	9 1 27	"	"	0 10 0	0 15 0	0 5 0	0 5 0	One " "
114	"	"	Peter Berston	Ladywater	8 3 36	- - -	"	"	0 10 0	1 0 0	0 15 0	0 15 0	One " "

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
115	Zetland (Marquis of Zetland, Proprietor)	1893 May 31	1893 July 11	Elizabeth Sinclair	Hill, Burray	2 - -	7 - 2	None	None	1 0 0	0 15 0	21 10 0	0 15 0	20 15 0	Arrears payable in one Sum at Martinmas 1893.
116	"	"	"	George Robertson	Hilltoft	6 - -	3 2 30	"	"	0 15 0	1 0 0	0 7 6	0 7 6	...	One "
117	"	"	"	Sinclair Wylie	Littlequoy	6 2 -	8 3 33	"	"	0 15 0	1 5 0	1 2 6	1 2 6	...	One "
118	"	"	"	James Guthrie	Upper Loch-house.	8 - -	4 3 9	"	"	1 0 0	1 15 0	2 10 0	2 10 0	...	Two yearly Instalments of £1 10s. & £1
119	"	"	"	Donald Wards	Hillhouse	7 - -	3 1 14	"	"	0 15 0	1 0 0	0 7 6	0 7 6	...	One Sum at Martinmas 1893.
120	"	"	"	William Anderson	Nearhouse	6 - -	9 2 8	"	"	1 5 0	1 0 0	0 12 6	...	0 12 6	Two yearly Instalments of £1 & 15s.
121	"	"	"	Alexander Kennedy	Millhouse	3 2 3	1 3 3	"	"	0 10 0	1 0 0	1 15 0	1 15 0	...	Two "
122	"	"	"	Robert Taylor	Commons	4 1 17	- - -	"	"	0 15 0	1 0 0	3 17 6	2 0 0	1 17 6	One Sum at Martinmas 1893.
123	"	"	"	Peter Rosie	Swannies	5 - -	11 3 32	"	"	0 10 0	1 0 0	0 15 0	0 15 0	...	Two yearly Instalments of £2 & £1
124	"	1889 Feb. 6	"	Hugh Mackay	Little Cellardyke	5 2 2	- - -	"	"	1 5 0	1 5 0	5 2 6	3 0 0	2 2 6	Two "
125	"	"	"	James Norquoy	Swona	3 2 -	- - -	151	1½	2 10 0	1 15 0	11 5 0	4 0 0	7 5 0	One Sum at Martinmas 1893.
126	"	"	"	George Allan	"	3 3 8	- - -	"	1½	3 0 0	2 0 0	7 10 0	2 0 0	5 10 0	Three yearly Instalments of £3 each
127	"	"	"	James Durran Cro-marty	"	4 1 25	- - -	"	1	3 10 0	3 0 0	17 15 0	9 0 0	8 15 0	One Sum at Martinmas 1893.
128	Woodwick North Ronaldshay (John Traill, Proprietor)	1887 Sept. 6	"	Thomas Thomson	Hovatoft (Cross Burness and North Ronaldshay)	11 1 7	1 2 35	271	(a)	11 7 0	7 10 0	{ A 8 11 0 B 11 1 6	...	8 11 0 11 1 6	Two yearly Instalments of £2 each
129	"	"	"	William Swanney	Viggay	13 - 31	- - -	"	(b)	4 16 0	4 4 0	{ A 3 7 5 B 3 7 5	...	3 7 5	One Sum at Martinmas 1893.
130	"	"	"	Robert Cutt	Brecken	4 1 36	- - -	"	(a)	2 0 0	2 0 0	{ A 2 1 6 B 2 1 6	2 1 6	...	Two yearly Instalments of £3 each
131	"	"	"	John Cutt	Stennabreck	4 - 25	2 2 32	"	(b)	4 0 0	3 0 0	{ A 2 0 0 B 2 0 0	...	2 0 0	One Sum at Martinmas 1893.
132	"	"	"	William Swanney	North Newbigging	12 1 18	1 2 32	"	(c)	17 3 3	10 15 0	{ A 31 9 2 B 13 16 0	6 0 0	25 9 2 13 16 0	Two yearly Instalments of £3 each
133	"	"	"	Samuel Swanney	Nesmuir	10 3 7	- - -	"	(b)	4 19 9	3 18 0	{ A 2 9 10 B 2 9 10	...	2 9 10	One Sum at Martinmas 1893.

(a) Has also right to graze 2 cows on Bridesness Parks extending to 30 acres.

(b) Has 1 cow

(c) Has 4 cows

A Due to the Executors of the late Dr William Traill.
B Due to the present proprietor, Mr John Traill.

APP. A (1)—COUNTY OF ORKNEY (*continued*).—CROFTING PARISH OF CROSS, BURNES AND NORTH RONALDSHAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	Share Pasture.	Present Rent.	Fair Rent.	Total Amount.	Arrears.		Observations.
					Arable.	Outrun.	Acres.						Ordered to be Paid.	Cancelled.	
134	Woodwick, North Ronaldshay, (John Traill, Proprietor)	1887 Sept. 6	Thomas Tulloch.	Northness.	6 1 14	1 3 29	271		(b)	£ s. d. 7 19 9	£ s. d. 5 4 0	{ A 52 10 8 B 3 19 10	£ s. d. 8 19 10		
135	"	"	James Cuth.	Bridenness.	50 3 30	5 5 31			(a)	£ s. d. 4 0 0	£ s. d. 3 2 0	{ A 52 10 8 B 2 0 0	£ s. d. 2 0 0		
136	"	"	Mary Cuth.	Gairbo.	11 3 10	3 3 31			(b)	£ s. d. 6 15 9	£ s. d. 4 14 0	{ A 52 10 8 B 5 2 3 8	£ s. d. 5 2 3 8		
137	"	"	William Swanney	Claypows.	31 - 20	13 3 23			(b)	£ s. d. 10 17 9	£ s. d. 7 5 0	{ A 10 13 30 B 6 3 7	£ s. d. 10 13 30		
138	"	"	Ann Tulloch	Barrenha.	34 1 -	18 1 10			(b)	£ s. d. 3 0 9	£ s. d. 2 15 0	{ A 52 10 8 B 1 10 4	£ s. d. 1 10 4		
139	"	"	William Muir	Waterhouse.	12 3 25	1 29			(b)	£ s. d. 7 4 0	£ s. d. 5 5 0	{ A 52 10 8 B 9 8 5	£ s. d. 9 8 5		
140	"	"	Sarah Tulloch	Cursiter	5 3 26	3 15			(b)	£ s. d. 4 0 0	£ s. d. 3 0 0	{ A 52 10 8 B 10 6 5	£ s. d. 4 0 0		Arrears payable in two yearly Instalments of £2 each
141	"	"	Mrs Thomas Tulloch	Greenwall *.	3 -	1 -				£ s. d. 3 5 0	£ s. d. 1 14 0	{ A 52 10 8 B 1 14 0	£ s. d. 1 14 0		
142	"	"	Hugh Tulloch	"	22 1 -	2 1 -				£ s. d. 18 7 0	£ s. d. 12 0 0	{ A 28 8 2 B 30 10 1	£ s. d. 18 8 2		Three " £4
143	"	"	William Tulloch.	Crnestreck	30 2 26	5 2 4				£ s. d. 26 0 0	£ s. d. 17 0 0	{ A 31 14 0 B 47 6 7	£ s. d. 11 14 0		Three " £10, £5 & £5
144	"	"	John Cuth, junior	Cauldhane	16 2 5	2 10				£ s. d. 8 10 0	£ s. d. 6 0 0	{ A 9 10 0 B 17 7 10	£ s. d. 4 10 0		Two " £2 & £3
145	"	"	Widow Mary Swanney	Holm	14 1 15	3 -				£ s. d. 7 10 0	£ s. d. 5 12 0	{ A 52 10 8 B 7 12 6	£ s. d. 5 12 0		One Sum at Martinmas 1893.
146	"	"	Alexander Tulloch	Phisligar	18 3 15	2 3 15				£ s. d. 15 15 0	£ s. d. 8 10 0	{ A 14 14 0 B 21 14 4	£ s. d. 8 10 0		Two yearly Instalments of £3 & £2
147	"	"	John Scott.	North Manse	12 2 -	4 2 -				£ s. d. 10 2 0	£ s. d. 7 8 0	{ A 14 9 0 B 27 13 0	£ s. d. 6 0 0		Two " £3 each
148	"	"	William and Peter Kelday†	Greenspot	17 -	2 -				£ s. d. 7 16 0	£ s. d. 5 8 0	{ A 52 10 8 B 10 13 4	£ s. d. 9 0 0		Three " £3

(a) Has also right to graze 2 cows on Bridesness Parks extending to 30 acres.

(b) Has also right to graze 1 cow

* See App. G (G), page 75.

A Due to the Executors of the late Dr William Trail.

B Due to the present proprietor, Mr John Traill.

+ See App. G (D), page 74.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Acres				Total Amount.	Ordered to be Paid.	Cancelled.	
149	Woodwick, North Ronaldshay (John Traill, Proprietor)	1887 Sept. 6	1893 July 11	Charles Tulloch .	Ancum .	22 - 1	5 - 1	271		£ s. d. 12 12 0	£ s. d. 8 7 0	£ s. d. A 27 18 0 B 30 11 8	£ s. d. 10 0 0 6 0 0	£ s. d. 17 18 0 25 11 8	Arrears payable in three yearly instalments of £4, £3 & £3 Two "
150	"	"	"	Jessie Tulloch .	Westness .	29 - -	1 3 -			20 8 0	13 0 0	A 41 1 10 B 30 14 7	18 0 0	23 1 10 30 14 7	Three " £6 each
151	"	"	"	Thomas Tulloch *	Purtabreck .	29 - 11	5 - 31			14 12 0	9 17 0	A ... B 16 6 10	...	16 6 10	
152	"	"	"	Hugh Muir .	Midhouse .	4 2 -	- 3 -			1 10 0	1 10 0	A ... B 0 15 0	0 15 0	...	One Sum at Martinmas 1893.
153	"	"	"	Thomas Muir .	Niven .	9 3 -	2 2 -			2 10 0	2 0 0	A 3 9 3 B 3 11 5	2 0 0	1 9 3 3 11 5	Two Instalments of £1 each
154	"	"	"	Mrs John Cutt .	Parkhouse .	7 1 -	- - -			1 10 0	2 0 0	A ... B 0 15 0	0 15 0	...	One Sum at Martinmas 1893.
155	"	"	"	John Kelday .	Trebb .	6 3 -	- 3 -			1 0 0	1 0 0	A ... B 0 10 0	0 10 0	...	One "
156	"	"	"	John Thomson †.	Pekthole .	24 1 -	18 1 10			20 0 0	13 10 0	A 16 19 0 B 22 3 2	...	16 19 0 22 3 2	
157	"	"	"	William Swanney .	Upper Cott .	27 - 30	13 3 33			16 0 0	11 7 0	A 13 0 0 B 17 17 9	3 0 0	10 0 0 17 17 9	One "
158	"	"	"	John Swanney .	Sangar .	11 2 16	3 3 27			8 10 0	6 2 0	A 4 6 2 B 14 19 4	2 0 0	2 6 2 14 19 4	One "
159	"	"	"	William Tulloch .	Longar .	20 2 26	4 2 27			16 16 0	10 6 0	A 28 10 6 B 46 11 11	10 0 0	18 10 6 39 1 11	Three yearly Instalments of £4, £3 & £3 Two "
160	"	"	"	James Muir .	Brigg .	15 2 27	- - -			8 8 0	5 10 0	A 27 0 0 B ...	7 0 0	20 0 2	Two " £4 & £3
161	"	"	"	John Muir .	Burray .	13 3 23	- - -			8 8 0	5 6 0	A 15 6 0 B 28 0 6	5 0 0	10 6 0 20 0 6	Two " £3 & £2
162	"	"	"	John Muir .	Upper Linay .	34 3 11	- - -			17 0 0	12 0 0	A 38 17 2 B 49 4 0	15 0 0	23 17 2 31 4 0	Three " £5 "
163	"	"	"	John Swanney .	Nether Linay	29 2 28	- - -			16 16 0	11 5 0	A 20 17 10 B 57 3 10	5 0 0	15 17 10 42 3 10	Two " £3 & £2

(a) Has also right to graze 2 cows on Links Park extending to 89 acres.

(b) Has 1 cow

* See App. G (H), page 75.

A Due to the Executors of the late Dr William Traill.

B Due to the present proprietor, Mr John Traill.

† See App. G (E), page 74.

APP. A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF CROSS, BURNES AND NORTH RONALDSHAY.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
164	Woodwick, North Ronaldshay (John Traill, Proprietor)	1887 Sept. 6	John Thomson	Quoybanks	8 - 14	2 1 13	271	(f)	£ 6 0 0	£ s. d. 4 0 0	{ A 7 13 11 B 8 7 5	£ s. d. 4 13 11 3 0 0 8 7 5		Arrears payable in two yearly instalments of £2 & £1
165	"	"	John Tulloch	Sandback	8 2 37	3 2 23		(f)	6 10 6	4 10 0	{ A 7 19 4 B 23 4 4	9 0 0	7 19 4 14 4 4	Three " £3 each
166	"	"	Thomas Thomson junior	Congilbust	9 1 25	2 1 15		(f)	6 15 0	4 8 0	{ A 24 0 5 B 10 14 10	6 0 0	18 0 5 10 14 10	Two " £3 "
167	"	"	William Thomson	Grind	8 - 22	- - -		(f)	5 15 0	3 14 0	{ A 12 2 4 B 4 5 9	3 0 0	9 2 4 4 5 9	Two " £2 & £1
168	"	"	Jessie Tulloch	Garso	7 2 21	3 - 12		(f)	7 0 0	4 16 0	{ A 27 4 7 B 13 2 10	8 0 0	19 4 7 13 2 10	Three " £3, £3 & £2
169	"	"	Sibla Tulloch	Scottigar	6 3 15	1 2 18		(f)	5 16 0	3 14 0	{ A 13 5 11 B 19 17 5	6 0 0	13 5 11 13 17 5	Three " £2 each
170	"	"	John Tulloch	Rne	12 3 30	1 3 32		(f)	6 1 6	4 4 0	{ A ... B 6 5 3	...	6 5 3	
171	"	1889 Mar. 1	John Swanney	North Gravity	12 - 1	3 2 2		(f)	6 11 0	4 12 0	{ A ... B 3 5 6	...	3 5 6	
172	"	"	Mary Thomson	South Gravity	2 - 1	2 1 2		(f)	1 5 0	1 0 0	{ A ... B 0 12 6	...	0 12 6	
173	"	"	Thomas Tulloch	Gateside	5 2 -	- - -		(g)	3 12 0	2 12 0	{ A ... B 1 16 0	...	1 16 0	
174	"	"	Neil Tulloch	"	5 2 -	- - -		(g)	3 12 0	2 12 0	{ A ... B 2 7 0	...	2 7 0	
175	"	"	Peter Muir	Sholisquoy	7 2 -	- 1 24		(f)	5 5 0	3 10 0	{ A 6 18 2 B 10 11 4	3 10 0	3 8 2 10 11 4	Two " £2 & £1 10s.
176	"	"	Thomas Tulloch	Garso	7 3 12	2 2 22		(f)	7 5 0	4 12 0	{ A 10 15 0 B 12 10 0	5 0 0	5 15 0 12 10 0	Two " £3 & £2
177	"	"	William Swanney	Vincoin	9 2 28	- 1 16		(f)	5 15 0	3 18 0	{ A 8 12 6 B 7 9 11	4 0 0	4 12 6 7 9 11	Two " £2 each
178	"	"	William Scott	Westhouse	6 3 26	1 2 29		(f)	5 17 6	3 17 0	{ A 1 3 6 B 7 18 9	...	1 3 6 7 18 9	

(f) Has also $\frac{1}{4}$ share of Breck pasture of 39 acres and 1 cow's grass in Links Park.
(g) Has $\frac{1}{2}$ cow's grass in Bridenosa Parks extending to 30 acres.

A Due to Executors of late Dr William Traill.
B Due to the present proprietor, Mr John Traill.

APP A (1)—COUNTY OF ORKNEY (*contd.*)—CROFTING PARISHES OF CROSS, BURNES & NORTH RONALDSHAY, ST ANDREWS & DEERNESS, STENNESS, HOLM, & ROUSAY & EGILSHAY.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outfall.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
179	Woodwick, North Ronaldshay (John Traill, Proprietor)	1889 March 1	1893 July 11	Mrs Mary Cuth.	Sennes	8 - 3	1 2 12	271	(f)	7 5 0	4 14 0	{ A 10 9 4 B 14 16 2 }	{ 2 0 0 2 0 0 }	{ 8 9 4 12 16 2 }	Arrears payable in one Sum at Martinmas 1893. One " " " "
180	"	"	"	John Tulloch	Lochend	8 - 33	1 3 -	(See page 9.)	(f)	4 0 0	3 12 0	{ A 14 14 11 B 1 5 10 }	{ 4 0 0 .. }	{ 10 14 11 1 5 10 }	Two yearly Instalments of £2 each
181	Zetland (Marquis of Zetland, Proprietor)	1893 June 1	"	Archibald Wilson Anderson	Horrie (St Andrews and Deerness)	27 - -	9 3 36	None	None	11 0 0	10 0 0	28 10 0	20 0 0	6 10 0	Three " £10, £5, £5
182	"	May 31	"	Andrew Skea	Breakquoy	18 3 33	- - -	"	"	4 10 0	3 10 0	8 5 0	3 10 0	4 15 0	One Sum at Martinmas 1893.
183	"	"	"	William Ritch	Mire	20 - 85	- - -	"	"	4 0 0	3 10 0	27 0 0	7 0 0	20 0 0	Two yearly Instalments of £4 & £3
184	"	June 9	"	Thomas Monat	Cellardyke	17 - -	1 3 -	"	"	8 0 0	6 12 0	12 0 0	6 12 0	5 8 0	Two " £3 12s. & £3
185	Balfour and Trenaby (Lieut.-Col. J. W. Balfour, Proprietor)	Mar. 3	"	Mrs Margaret Moar or Bows	Deckaquoy (Stenness)	2 - -	27 1 6	"	"	2 0 0	1 15 0	5 0 0	1 15 0	3 5 0	One Sum at Martinmas 1893.
186	Clouston (Mrs A. C. Searth or Macrae, Proprietrix)	June 19	"	Janet Sinclair	Galeed	2 2 -	7 - -	"	"	2 17 0	2 0 0	...	...	...	
187	Grameshall (A. Sutherland Grene, Proprietor)	" 7	"	David Petrie	Skéal (Holm)	32 - -	10 - -	"	"	14 8 0	11 10 0	14 8 0	11 10 0	2 18 0	Two yearly Instalments of £6 10s. & £5
188	Rousay and Viera (Lieut.-Gen. F. W. T. Burroughs, Proprietor)	1892 Dec. 31	"	James Johnston	Frøtoft (Rousay and Egilshay)	6 - -	1 3 -	"	"	7 0 0	5 0 0	2 0 0	...	2 0 0	
189	"	June 22	"	Jane Craigie	Graysteen	2 - -	10 - -	"	"	1 0 0	1 0 0	6 10 0	1 0 0	5 10 0	One Sum at Martinmas 1893.

(f) Has also 1/4 share of Breck pasture of 39 acres and 1 cow's grass in Links Park.

B Due to the present proprietor, Mr John Traill.

A Due to Executors of late Dr William Traill.

APP. A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF WALLS AND FLOTTA.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.		Total Amount.	Ordered to be Paid.	Cancelled.	Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.			£ s. d.	£ s. d.				
190	Zetland (Flotta) (Marquis of Zetland, Proprietor)	1888 Oct. 4	1893 July 11	Robert Taylor	Littlebow	8 3 -	- 1 3	-	None	£ s. d. 3 5 0	£ s. d. 2 10 0	£ s. d. 11 7 6	£ s. d. 5 0 0	£ s. d. 6 7 6		Arrears payable in two yearly instalments of £3 & £2
191	"	"	"	Thomas Sutherland	Brunthouse	14 - -	3 2 -	-	"	10 0 0	7 0 0	35 0 0	10 0 0	25 0 0	Three	" £4, £3 & £3
192	"	"	"	Alexander Sandison	Gowan	5 3 8	3 - -	-	"	4 0 0	2 8 0	19 0 0	4 16 0	14 4 0	Two	" £2 16s. & £2
193	"	"	"	Isabella Sandison	Greenquoy and Brae	15 - -	6 1 -	-	"	6 18 0	4 4 0	42 1 0	6 0 0	36 1 0	Three	" £2 each
194	"	"	"	Alexander Tomison	Lurdy	8 - -	- 3 83	-	"	4 0 0	2 10 0	26 0 0	3 0 0	36 0 0		
195	"	"	"	William Isbister	Arp	7 - -	1 3 -	-	"	4 0 0	2 18 0	18 0 0	2 0 0	6 0 0	Two	" £1 "
196	"	"	"	William Work, junior	Greenslide	13 2 -	7 - -	-	"	4 10 0	3 3 0	22 4 6	6 6 0	15 18 6	Three	" £2 2s. "
197	"	Dec. 1	"	William Budge Taylor	Orback	10 - -	1 2 -	-	"	6 10 0	4 0 0	17 15 0	5 0 0	12 15 0	Two	" £3 & £2
198	"	"	"	Gavin Sabiston	Curries	9 2 -	2 2 -	-	"	4 0 0	2 7 0	16 0 0	2 6 0	6 4 0	Two	" £1 6s. & £1
199	"	1889 Feb. 6	"	William Sutherland	Little Lurdy	8 1 -	1 1 -	-	"	3 0 0	2 6 0	8 10 0	8 0 0	22 10 0	Three	" £3, £3 & £2
200	"	"	"	William Sutherland	Avil	16 2 -	1 - -	-	"	9 0 0	6 13 0	30 10 0	8 0 0	13 5 0	Three	" £3, £3 & £2
201	"	"	"	Joseph Simpson	Bow	11 - -	5 - -	-	"	8 10 0	6 10 0	21 5 0	8 0 0	14 15 0	Three	" £3, £3 & £2
202	"	"	"	John Flett	"	11 - -	5 - -	-	"	8 10 0	6 5 0	22 15 0	8 0 0	4 0 0	Two	" £2 each
203	"	Mar. 1 1890	"	Daniel Rosie	Old School	7 - -	1 - -	-	"	4 0 0	4 0 0	8 0 0	4 0 0	3 0 0	Three	" £2 "
204	"	Dec. 13 1893	"	Widow Betsy Norquoy	Quoyness	10 - -	13 - -	-	"	3 0 0	3 0 0	9 0 0	6 0 0	3 2 0	Two	" £1 18s. & £1
205	"	May 31	"	William Flett	Cameraljoy	6 1 28	- - -	-	"	4 0 0	2 18 0	6 0 0	2 18 0	4 0 0	Two	" £1 each
206	"	"	"	Magnus Taylor	Housgoe	9 3 4	- - -	-	"	2 0 0	1 10 0	6 0 0	2 0 0	1 5 0	One Sum at Martinmas 1893.	"
207	"	"	"	Mrs John Esson	Hammigair	8 1 27	- - -	-	"	1 10 0	1 10 0	2 15 0	1 10 0	...	One	"
208	"	"	"	Alexander Norquoy	HHH	3 - 8	3 - 8	-	"	0 10 0	1 0 0	0 15 0	0 15 0	1 15 0	Two yearly instalments of £1 each	"
209	"	"	"	John Norquoy	Catmuthall	6 - -	- 1 14	-	"	1 10 0	1 10 0	5 10 0	3 0 0	2 10 0	Two	" £2 & £1
210	"	"	"	John Norquoy	Heathercrown	7 - -	- 3 20	-	"	2 0 0	1 15 0	4 0 0	1 10 0	2 10 0	One Sum at Martinmas 1893.	"
211	"	"	"	Thomas Hutton Norquoy	nook Bow	5 - -	5 - 20	-	"	2 0 0	1 10 0	4 0 0	1 10 0	2 10 0		

APP. A (1)—COUNTY OF ORKNEY (continued).—CROFTING PARISH OF WALLS AND FLOTTA.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
212	Zetland (Flotta), (Marquis of Zetland, Proprietor)	1893 May 31	1893 July 11	Helen Sutherland	Housgoe	12 - -	6 - 21	6 - 21	None	£ s. d. 2 10 0	£ s. d. 2 10 0	£ s. d. 5 15 0	£ s. d. 5 15 0	£ s. d. ...	Arrears payable in two yearly instalments of £3 & £2 15s.
213	"	"	"	John Sutherland.	Catmuirhall.	8 - -	- 2 17	- 2 17	"	3 0 0	2 12 0	3 10 0	2 12 0	0 18 0	Two " £1 12s. & £1
214	"	"	"	George Gunn	Knockdry	4 3 -	- 2 -	- 2 -	"	1 10 0	1 5 0	2 5 0	1 5 0	1 0 0	One Sum at Martinmas 1893.
215	"	June 1	"	James Sabiston	Little Blomuir	6 - -	5 - 32	5 - 32	"	1 10 0	1 10 0	4 5 0	2 0 0	2 5 0	Two yearly instalments of £1 each
216	"	"	"	Edward Nicolson	Smiddy	4 - -	4 3 -	4 3 -	"	0 10 0	1 0 0	1 5 0	1 5 0	...	One Sum at Martinmas 1893.
217	"	"	"	James Simpson	Hillhead	8 3 -	21 - -	21 - -	"	4 0 0	3 3 0	29 0 0	6 6 0	22 14 0	Three yearly instalments of £2 2s. each
218	"	"	"	James Simpson	Hilldyke	3 3 16	1 - -	1 - -	"	1 0 0	1 0 0	2 10 0	1 0 0	1 10 0	One Sum at Martinmas 1893.
219	"	"	"	Margaret Sabiston	Hopefield	2 - -	3 1 -	3 1 -	"	1 10 0	1 0 0	6 5 0	1 0 0	5 5 0	One " "
220	"	"	"	Charles Simpson	Bowcot	3 1 25	- - -	- - -	"	2 0 0	1 5 0	4 0 0	1 5 0	2 15 0	One " "
221	"	"	"	Margaret Tomison or Dass	Carldhame	4 - -	- - -	- - -	"	0 15 0	0 15 0	6 7 6	1 10 0	4 17 6	One " "
222	"	"	"	William Simpson	"	6 - -	2 2 -	2 2 -	"	2 18 0	2 6 0	4 7 0	2 6 0	2 1 0	Two yearly instalments of £1 6s. & £1.
223	"	" 9	"	Dianah Stout or Norquoy	Kenzies Tower	4 2 -	10 1 8	10 1 8	"	1 10 0	1 10 0	8 15 0	2 0 0	6 15 0	Two " £1 each
224	"	"	"	Margaret Scott or Sabiston	Wheelaquoy	5 - 34	- - -	- - -	"	2 0 0	1 5 0	3 0 0	1 5 0	1 15 0	One Sum at Martinmas 1893.

APP. A (2)—COUNTY OF ARGYLL—CROFTING PARISH OF LISMORE AND APPIN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
1	Dunor (W. Macalpine-Lennox, Proprietor)	1892 Sept. 9	1893 July 11	Malcolm Maclean	South Cuir	16 - 10	6 - -	6 - -	500 shares, 3 dealt with. Divided into 4	29 6 6	20 10 0	10 12 6	...	10 12 6	
2	"	"	"	John Colquhoun.	"	13 3 30	4 2 -	4 2 -	1	29 6 6	21 10 0	9 8 0	...	9 8 0	
3	"	"	"	Donald Macpherson	"	13 2 8	1 1 24	1 1 24	1	27 7 0	19 0 0	9 9 6	...	9 9 6	

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ontrun.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
4	Appin. (Appin Trustees, Proprietors)	1887 Apr. 27	John Mackenzie *	Dahatrad	Ac. Ro. Po. 7 - 10	Ac. Ro. Po. 13 3 32	Acres None	None	£ s. d. 12 0 0	£ s. d. 8 5 0	£ s. d. 7 15 2	£ s. d. ...	£ s. d. 7 15 2	
5	"	"	Alexander Macarthur +	Portnacraish.	3 - 6	- - -	20	Acres None	£ s. d. 11 0 0	£ s. d. 8 0 0	...	...	...	
6	"	"	Ronald Maccoll	"	2 2 36	- - -	10 shares dealt with.	2	£ s. d. 11 0 0	£ s. d. 6 5 0	5 10 0	...	5 10 0	
7	"	"	John Macmaster.	Achosregan.	3 1 25	- - -	88	2	£ s. d. 11 0 0	£ s. d. 7 5 0	18 10 0	...	18 10 0	
8	"	"	Donald Maclean.	"	5 - 2	- - -	4 shares dealt with.	2	£ s. d. 11 0 0	£ s. d. 7 5 0	12 12 0	...	12 12 0	
9	Airds (Robert Macfie, Proprietor)	"	Hugh Henderson	Taychreggan.	9 - 19	- - -	171 divided into 11 shares.	2	£ s. d. 24 10 0	£ s. d. 17 0 0	70 6 0	25 0 0	45 6 0	Arrears payable in Three yearly In- stalments of £10, £8 & £7
10	"	May 7	Hugh Maccoll	Port Appin	3 2 21	4 3 18	17 divided into 4 shares, 1 dealt with.	1	£ s. d. 8 10 0	£ s. d. 6 0 0	13 10 0	...	13 10 0	
11	Lochnall (Richard Watson, Trustee for A. A. L. Camp- bell, Proprietor)	Jan. 6	Colin Campbell	Kinloch (Ardhatten and Muck- airn)	5 1 25	23 - 23	None	None	£ s. d. 12 0 0	£ s. d. 5 5 0	10 14 3	...	10 14 3	
12	"	" 14	John Macgregor	"	5 1 25	23 - 22	"	"	£ s. d. 12 0 0	£ s. d. 5 5 0	17 4 4	...	17 4 4	
13	"	" 6	Alexander Maccoll	1 Kell	5 1 31	1 - 10	58	1	£ s. d. 5 15 0	£ s. d. 3 17 0	3 12 7	...	3 12 7	
14	"	"	Donald Connell	2 "	4 - 13	1 3 31	16	1	£ s. d. 5 15 0	£ s. d. 3 6 0	...	...	...	
15	"	"	Widow Mary Maccallum or Morrison	4 "	6 - 13	9 - 28	23 shares.	2	£ s. d. 10 0 0	£ s. d. 6 0 0	32 5 3	8 0 0	24 5 3	Three " £3, £3 & £2
16	"	"	Duncan Maccoll	5 "	11 2 -	7 2 9	dealt with.	2	£ s. d. 12 14 0	£ s. d. 7 10 0	25 18 0	...	25 18 0	
17	"	"	Widow Janet Black or Macgregor	15 "	7 3 20	- - -	23 shares.	1	£ s. d. 8 0 0	£ s. d. 5 0 0	...	...	...	
18	"	"	Kenneth Mackenzie	14 "	7 - 7	- - -	dealt with.	1	£ s. d. 8 0 0	£ s. d. 5 0 0	29 12 1	10 0 0	19 12 1	Three " £4, £3 & £3
19	"	"	Archibald Maccallum	12 "	11 - 1	- - -	divided into 23 shares.	2	£ s. d. 11 0 0	£ s. d. 5 14 0	12 10 0	...	12 10 0	
20	"	"	Dugald Maccoll	17 "	4 - -	- - -	divided into 23 shares.	2	£ s. d. 8 0 0	£ s. d. 4 6 0	...	...	...	

* See App. G [Q(a)], page 87.

+ See App. G [Q(b)], page 87.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF ARDCHATTAN AND MUCKAIKEN.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.	
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.		Cancelled.
					Ac. Ro. Po.	Ac. Ro. Po.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
21	Lochnell (Richard Watson, Trustee for A. A. L. Campbell, Proprietor)	1893 Apr. 27	John Maccallum.	16 Keil.	5 - - 11 5 -	1 - 5 -	58	2	6 0 0	4 5 0	...	...		
22	"	Mar. 21 1887	John and Duncan Campbell	13 "	6 - -	2 - -	(See preceding page.)	2	9 0 0	5 15 0	5 12 8	...	5 12 8	
23	"	Jan. 6 "	William Macdonald	11 "	14 - -	12 - -	None	None	17 0 0	13 0 0	4 10 0	...	4 10 0	
24	"	" 5 "	John Macphail	Selma	1 2 -	- - -	"	"	4 0 0	2 10 0	0 10 0	...	0 10 0	
25	"	Feb. 4 "	Margaret Buchanan	4 Black Crofts	1 2 33	- - -	82	2	5 0 0	3 10 0	...	...	...	Arrears payable in one Sum at Martinmas 1893.
26	"	" "	John Maccallum.	5 "	1 2 36	- - -	dealt into 20	2	6 0 0	3 10 0	18 10 0	3 0 0	15 10 0	
27	"	" "	William Black	6 "	1 3 8	- - -	Divided into 20	2	6 0 0	3 10 0	...	...	...	
28	"	Jan. 8 "	Widow Lily Macarthur or Macdougall	11 "	3 - 25 3 3 01	2 1 24 2 3 19	Shares.	2	6 0 0	4 10 0	7 15 4 13 10 0	...	7 15 4 13 10 0	
29	"	Feb. 9 1889	Ann MacLaurin	1 New Crofts	3 1 -	2 - -	18	1	6 0 0	4 0 0	9 0 0	...	9 0 0	
30	"	Mar. 13 1887	Malcolm Beaton	2 "	3 1 -	2 - 19	"	1	6 12 8	4 5 0	6 16 0	...	6 16 0	
31	"	Feb. 9 "	Elizabeth Macallum	3 "	2 3 6	- - -	None	None	3 0 0	2 0 0	1 10 0	...	1 10 0	
32	"	Dec. 29 "	John Macgregor	Kilvaree	7 1 -	30 - -	...	"	14 0 0	9 0 0	43 0 0	13 0 0	30 0 0	Three yearly Instalments £5, £4 & £4
33	"	1890 Sept. 2 1887	Colin Sinclair	"	8 - - 3 1 50	23 1 24	...	"	8 5 0	8 5 0	...	...	...	
34	"	Sept. 1 "	Malcolm Macintyre	Cuilbaine	3 - 32	5 2 32	"	"	7 12 0	5 4 0	...	...	...	
35	"	Apr. 16 "	Duncan Campbell	Brolas	3 2 -	23 2 26	"	"	16 0 0	8 0 0	44 0 0	...	44 0 0	
36	"	" 29 "	Alexander Macallum.	Balindoor	3 1 22	8 2 -	705	Grazing of 3 cows and 1 horse	*9 0 0	18 5 0	15 8 0	9 0 0	6 8 0	Three " £4, £2 10s. & £2 10s.
37	"	" "	Archibald Macall	"	4 - -	6 2 -	None	"	13 0 0	8 5 0	25 10 0	...	25 10 0	
38	"	" 1 "	Martin Thompson	Airds	2 2 35	3 1 5	...	2 Cows grazing.	8 0 0	5 15 0	13 1 6	...	13 1 6	
39	"	" "	Donald Macfarlane	"	4 2 27	- - -	...	1 "	3 12 0	5 12 0	1 6 0	1 6 0	...	One Sum at Martinmas 1893.
40	"	" "	Duncan Macniven	"	2 - -	1 11 8	...	1 "	4 2 0	3 0 0	1 16 4	...	1 16 4	

* Exclusive of grazing of 1 horse.

+ Inclusive of grazing of 1 horse.

+ Has also share in Stallion Park.

+ Has also share in Dalvadie.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF ARDCHATTAN AND MUCKAIRN.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	In Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
					Arable.	Ac. Ro. Po.	Outrun.	Acres				Total Amount.	Ordered to be Paid.	Cancelled.
					Ac. Ro. Po.	Ac. Ro. Po.				£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
41	Lochnell (Richard Watson, Trustee for A. A. L. Campbell, Proprietor)	1887 Apr. 1	Widow Susan Scrymgeour or Clark	Airds	2 1 -	1 - -		705	2 Cows grazing.	8 0 0	4 0 0	17 17 6	17 17 6	
42	"	"	Donald Sinclair	"	3 - -	3 1 33			2 "	10 10 0	6 10 0	10 10 0	10 10 0	
43	"	"	Jane Macnicol	"	2 - -	1 1 36			1 "	5 10 0	3 15 0	11 5 0	11 5 0	
44	"	"	Donald Carsewell	"	4 - -	2 - 10			2 "	9 12 0	7 0 0	4 13 0	4 13 0	
45	"	"	Widow Isabella Maccallan or Macallum	"	3 - -	1 3 4			3 "	13 12 0	7 10 0	17 11 0	17 11 0	Arrears payable in two yearly Instalments of £3 & £2
46	"	"	John Macniven	"	2 2 -	2 2 -			2 "	7 4 0	4 10 0	19 5 9	5 0 0	14 5 9
47	"	"	Archibald Mackillop	"	4 - -	- 2 36			2 "	12 12 0	8 0 0	48 4 0	16 0 0	32 4 0
48	"	1890 May 14	Hector Macgillivray	"	2 2 2	3 2 -*			2 "	10 0 0	6 2 0	3 10 0	...	3 10 0
49	"	1887 Apr. 16	Mrs Jane Maccallan or Macfarlane	Airds Bay	3 2 -	- - -			2 "	10 0 0	7 0 0	25 0 0	6 0 0	19 0 0
50	"	"	Alexander Maccall	Kirkton	3 0 19	1 - 13			1 "	5 10 0	3 16 0	6 10 0	...	6 10 0
51	"	"	Hugh Maclean	"	1 1 36	- - -			1 "	4 0 0	2 10 0	4 0 0	...	4 0 0
52	"	"	Mrs Alice O'Neill or Bradley	"	3 - -	2 - 20			3 "	12 0 0	7 10 0	32 0 0	5 0 0	27 0 0
53	"	"	Archibald Livingstone	"	1 2 22	- - -			1 "	4 10 0	3 4 0	2 1 6	...	2 1 6
54	"	"	Dugald Campbell	"	2 - -	- - *			1 "	5 0 0	3 12 0	3 6 0	...	3 6 0
55	"	"	Dugald Macniven	"	5 2 10	- - -			2 "	10 0 0	7 10 0	11 18 0	...	11 18 0

* Has also share in Stallion Park.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISHES OF ARDCHATTAN AND MUCKAIRN, GLENORCHY AND INNISHAEL, AND KILMORE AND KILBRIDE.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
56	Lechnell (Richard Watson, Trustee for A. A. L. Campbell, Proprietor)	1887 Apr. 16	1893 July 11	Angus Macniven.	Kirkton	Ac. Ro. Po. 2 - 10	Ac. Ro. Po. - - -	Acres 705	1 cow's grazing.	£ s. d. 5 10 0	£ s. d. 3 16 0	£ s. d. 2 18 6	£ s. d. ...	£ s. d. 2 18 6	
57	"	"	"	Hugh Noble	Blackmill	4 2 27	- - -		2 "	9 0 0	5 0 0	24 15 0	...	24 15 0	
58	"	"	"	Charles Mackenzie	"	4 - -	- 3 16*		2 "	9 0 0	6 2 0	14 9 6	...	14 9 6	
59	"	Apr. 29	"	Alexander Macfarlane.	Shore (Glenorchy and Innishael)	1 2 36	- - -	14	1	10 10 0	6 0 0	18 17 6	...	18 17 6	
60	"	"	"	Neil Cunningham	"	1 3 33	- - -	Divided into 7 Shares—5 dealt with. 40+	1	6 10 0	3 17 0	12 0 0	...	12 0 0	
61	"	"	"	John Macdougall	"	1 1 28	- - -		1	5 0 0	3 10 0	...	...	...	
62	"	"	"	Duncan Mactaggart	"	3 0 12	- - -		2	20 0 0	12 14 0	48 4 0	4 0 0	44 4 0	Arrears payable in two instalments of £2 each.
63	"	"	"	Peter Macniven	"	1 2 1	- - -		1	9 0 0	4 17 0	11 0 0	...	11 0 0	
64	"	1888 Feb. 21	"	Archibald Munro	Brochroy	2 1 6	- - -		2	5 16 0	5 16 0	1 12 4	1 12 4	...	One Sum at Martinmas 1893.
65	"	1887 Apr. 16	"	Mrs Christina Munro or Rose and Sarah Munro + James Mackenzie	Bonawe.	8 1 20	- - -		1	12 0 0	8 0 0	8 0 0	2 0 0	6 0 0	One (fixed by agreement).
66	"	1890 Aug. 2	"		Kilmore (Kilmore and Kilbride)	2 1 -	- - -	Cow's grass on Kilmore Farm		6 0 0	3 14 0	3 0 0	...	3 0 0	
67	Ferry Park (J. Stuart M'Caig, Proprietor)	Aug. 2	"	Duncan Maccoll	Ferry Park (Ardchattan & Muckairn)	8 - -	26 1 36	None.	None.	16 0 0	8 0 0	11 10 0	...	11 10 0	
68	Oban and Glenshellach (Robert Marfite, Proprietor)	1887 Feb. 18	"	Caroline Keith	Port Kerra	2 1 9	16 1 29	None.	None.	27 0 0	19 0 0	118 3 0	40 0 0	78 3 0	Four yearly instalments of £10 each.

* Has also share in Stallion Park.

+ Divided into 11 shares.

† See App. G [H (g)], page 81.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF LISMORE AND APPIN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
						Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.
69	Glencoe. (Andrew Hunter Ballingall, W.S., Perth, as Trustee infert under Discharge, &c., by Mrs Ellen Macpherson Burns Macdonald and Husband, Proprietor)	1887 June 18	1893 July 11	Donald Macdonald	2 Upper Carnoch	Ac. Ro. Po. 3 0 16	Ac. Ro. Po. 1 0 7		Acres 1940	£ s. d. 8 4 8*	£ s. d. 5 12 0†	£ s. d. 11 13 8	£ s. d. ...	£ s. d. 11 16 3
70	"	"	"	John Macdonald.	3 "	2 1 10	- 2 4		8A	8 4 8*	5 4 0†	16 16 4	...	16 16 4
71	"	"	"	Angus Kennedy	1 "	2 1 36	2 - 28		8A	8 4 8*	5 8 0†	8 6 4	...	8 6 4
72	"	"	"	Alexander Macdonald.	6 "	1 3 30	1 1 19		8A	8 4 8*	5 4 0†	4 2 4	...	4 2 4
73	"	"	"	Donald Maccoll	7 "	1 3 39	1 1 26		8A	8 4 8*	5 4 0†	12 12 0	...	12 12 0
74	"	"	"	Duncan Macdonald	8 "	2 1 10	1 1 7		8A	8 5 8*	5 4 0†	14 11 2	...	14 11 2
75	"	"	"	John Macdonald.	10 "	5 - 6	1 2 4		8A	8 0 8*	5 15 0†	4 0 4	...	4 0 4
76	"	"	"	John Macdonald.	130 "	1 1 35	- 25		8A	4 2 4*	3 9 0†	1 0 0	...	1 0 0
77	"	"	"	Alexander Macintyre	13A "	1 3 34	- 1 -		4B	4 2 4*	3 12 0†	2 0 0	...	2 0 0
78	"	"	"	Widow Catherine Mac-killtop or Macinnes	15 "	1 2 31	- 24		4B	4 2 4*	3 10 0†	...	...	...
79	"	"	"	Duncan Kennedy	14 "	1 2 9	- 24		4B	4 2 4*	3 10 0†	0 10 0	...	0 10 0
80	"	"	"	Donald Macdonald (Roy)	11B "	2 1 5	- 30		4B	4 15 10*	3 12 0†	2 11 7	...	2 11 7

* Present Rents are exclusive of Garlas Grazing.
† Fair Rents are inclusive of Garlas Grazing.

A Has also $\frac{2}{3}$ share of the Pastures of Carnoch Hill, 161½ acres; Shore, 12 acres 32 poles; and Garlas Grazing, 106 acres.
B Has also $\frac{1}{3}$ share Do.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISHES OF LISMORE AND APPIN AND KILMALLIE.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
81	Glencoe A. H. Ballingall, &c. (see preceding page)	1887 June 18	Robert Robertson	12a Upper Carnoch	4 2 1	— — 30	— — 27	8A Acres 1940	£ s. d. 8 6 2*	£ s. d. 5 13 0†	£ s. d. ...	£ s. d. ...	£ s. d. ...	Arrears payable in one sum at Martinmas 1893.
82	"	"	Donald Macdonald	12a "	1 2 35	— — 27	— — 27	4B	4 2 4*	3 6 0†	6 18 2	2 0 0	4 18 2	
83	"	"	Dugald Macinnes	20A "	2 — —	— — 25	— — 25	4B	4 2 4*	3 8 0†	...	...	...	
84	"	"	Duncan Macintyre	19A "	2 1 34	— 2 12	— 2 12	4B	4 3 4*	3 12 0†	2 0 0	...	2 0 0	
85	"	Oct. 15	Alexander Maclellan	22B "	1 3 21	— 2 28	— 2 28	4B	4 3 6*	3 12 0†	...	...	...	
86	"	"	Donald Macdonald	16 "	2 3 34	— — —	— — —	8A	8 6 8*	5 8 0†	2 0 0	...	2 0 0	
87	"	"	Alexander Maccall	17A Carnoch	1 2 7	— — —	— — —	4B	4 6 10*	3 4 0†	2 13 8	...	2 13 8	
88	"	"	Donald and John Macdonald	24B "	2 1 37	— 2 20	— 2 20	4B	4 2 4*	3 16 0†	...	...	...	
89	"	"	Duncan Macintyre	22A "	2 3 39	— 2 20	— 2 20	4B	4 2 4*	3 16 0†	2 0 0	...	2 0 0	
90	"	"	Donald Macdonald	21B "	2 — 17	— 1 14	— 1 14	4B	4 2 4*	3 14 0†	3 2 4	...	3 2 4	
91	"	"	John Macdonald (Pensioner)	21A "	1 2 —	— 2 7	— 2 7	4B	4 2 4*	3 12 0†	...	...	...	
92	"	"	Widow Catherine Macdonald	21C "	1 2 24	— 1 34	— 1 34	4B	4 2 4*	3 12 0†	...	...	...	
93	"	"	James Macdonald	13 "	1 2 27	— 2 27	— 2 27	4B	4 15 10*	3 12 0†	1 0 0	...	1 0 0	
94	"	Apr. 29	Mary Rankine	Tighphuirst†	1 — 6	— 2 27	— 2 27	1940	4 6 4	3 4 0	...	...	...	
95	"	"	Donald Macdonald	"	— 3 30	— — 39	— — 39	5	4 6 4	3 4 0	1 18 2	...	1 18 2	
96	"	"	Donald Rankine junior	"	— 3 26	— 2 20	— 2 20	5	4 6 4	3 4 0	2 3 4	...	2 3 4	
97	"	"	Duncan Macinnes	"	1 — —	— 2 20	— 2 20	5	4 6 8	3 4 0	...	...	...	
98	"	"	John Rankine	"	— 2 27	— 1 18	— 1 18	5	4 6 8	3 0 0	...	...	...	
99	Ardkour (Tutors of Alexander John Hew Maclean, Pro-utors)	1886 Dec. 31	Archibald Maclean	3 Clovullin (Kilmallie)	4 — —	— — —	— — —	98	8 0 0	6 0 0	...	...	...	
100	"	"	Gilleen Currie	5 "	4 — —	— — —	— — —	(See next page.)	7 12 6	6 6 0	...	...	...	

* Present rents are exclusive of Garlas Grazing.

† Fair rents are inclusive of Garlas Grazing.

† Tighphuirst has, in addition to the share along with the Townships of Upper Carnoch and Carnoch in the said common pasturage of 1940 acres, the exclusive right of grazing on the pasture known as (1) Tighphuirst Hill, 32 acres, and (2) Shore, 3 acres 1 rood 22 poles, held in equal shares of 1 each by the crofters of the said Township, or in the ratio of 1 share to each 5 shares in the said common pasture of 1940 acres, divided into 8 shares, of which 5 dealt with.

§ See App. G [B (a)], page 78.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF KILMALLIE.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	In Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
					Arable.	Ac. Ro. Po.	Outrun.					Total Amount.	Ordered to be Paid.	Cancelled.
					Ac. Ro. Po.	Ac. Ro. Po.		Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ d. s.
101	Andgour, (Tutors of Alex- ander John Hew Maclean, Proprietors)	1886 Dec. 31	Hugh MacLachlan	7 Clovullin	4 — —	— — —	—	98	1	7 10 0	5 4 0	...	...	...
102	"	"	Peter MacInnes	9 "	2 1 1	— — —	—		1	5 10 0	2 14 0	...	...	...
103	"	"	Alexander Cameron	10 "	4 — —	— — —	—		1	7 10 0	4 0 0	...	...	...
104	"	"	Alexander Macmillan	11 "	4 — —	— — —	—		1	7 5 4	4 0 0	3 5 4	...	3 5 4
105	"	"	Duncan Cameron	12 "	4 — —	— — —	—		1	7 5 4	4 0 0	10 13 4	...	10 13 4
106	"	"	Lachlan Maclean	13 "	4 — —	— — —	—		1	7 5 4	4 0 0	...	...	...
107	"	"	Donald Maclean	14 "	4 — —	— — —	—		1	7 5 4	5 16 0	...	...	...
108	"	"	Donald Macintyre	15 "	4 — —	— — —	—		1	7 5 4	4 4 0	1 12 8	...	1 12 8
109	"	"	Donald Cameron	16 "	2 — —	— — —	—		1	4 3 4	2 4 0	...	...	...
110	"	"	Donald Woodend	8 "	4 — —	— — —	—		1	7 10 0	7 10 0	...	...	...
111	"	1891 Mar. 14	Donald MacInnes	1 Cuil Moss	3 2 —	— — —	—		1	4 10 0	2 10 0	...	...	...
112	"	"	Mary Maclean	1 "	2 2 —	— — —	—		1	4 0 0	2 2 0	...	...	...
113	"	1892 Jan. 23	Donald Macdonald *	Ruarach	1 — —	— — —	9	None	None	5 0 0	4 2 —	...	...	...
114	Conaglen (Earl of Morton, Pro- prietor)	Mar. 2	Donald Macintyre	2 Treslaig	3 — —	5 3 28	421+	45	2	3 17 6	3 0 0	...	...	...
115	"	"	Charles Maclean	4 "	2 1 —	— — 5	—		2	3 8 2	2 12 0	...	...	...
116	"	"	Sarah MacLachlan or Macintyre	5 "	3 — —	— — —	—		3	4 17 6	3 17 0	...	...	...
117	"	"	John Maclean	6 "	2 2 —	2 2 14	—		3	4 11 4	3 10 0	...	...	...
118	"	"	Lachlan MacLachlan	7 "	2 3 —	2 2 24	—		2	3 14 6	3 0 0	1 11 6	...	1 11 6
119	"	"	Duncan Cameron	8 "	3 — —	3 2 35	—		3	4 10 0	3 16 0	...	...	...
120	"	"	Ann Cameron	9 "	3 — —	2 3 15	—		3	4 17 6	3 16 0	2 2 6	...	2 2 6

* See App. G [G (a)], page 80.

+ Common pasture, 421 acres or thereby, over which tenants had formerly merely a right to graze 29 cows, the landlord getting the surplus grazing and wintering, is now exclusively assigned to the crofters of the Township, with power to them to let the said wintering as a whole to one tenant, reserving to the landlord $\frac{1}{4}$ of the rent for wintering, in respect of holdings held by non-applicants (see App. G, pages 83-4).

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF KILMALLIE.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Cancelled.	Observations.
						Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.		
121	Conaiglen (Earl of Morton, Proprietor)	1892 Mar. 2	1893 July 11	Sarah Macinnes	10 Trushag	2 2 -	4 2 16	Acres 421	2	£ s. d. 3 11 4	£ s. d. 2 16 0	£ s. d. 7 10 8	£ s. d. 4 10 8	...	Arrears payable in two yearly Instalments of £2 & £1
122	"	"	"	Charles Macmillan	11 "	2 2 -	4 2 13	(See preced. ing page.)	3	4 11 4	3 11 0	...	...	...	
123	"	"	"	Donald Macintyre	1 Blach	1 1 11	5 0 6	1055	2 cows grazing 3 "	2 15 8	2 0 0	2 5 3	1 5 3	...	One Sum at Martinmas 1893.
124	"	"	"	Ewen Maclean	3 "	3 2 32	11 3 29		3 "	5 6 4	3 18 0	...	...	...	
125	"	"	"	Mrs Jane Macdonald	4 ¹ "	2 0 33	8 3 16		2 "	3 8 0	2 12 0	13 4 0	10 12 0	...	Two yearly Instalments of £1 12s. & £1
126	"	"	"	Duncan Boyd	4 ² & 5 ¹ "	3 3 10	11 1 2		3 "	5 7 8	3 18 0	...	...	...	
127	"	"	"	Alexander Kennedy	5 ² "	3 3 -	25 - 32		3 "	4 8 0	3 15 0	3 18 0	2 0 0	1 18 0	Two " £1 each.
128	"	"	"	Mrs Mary Cameron	6, 7 & 8 "	17 1 17	37 1 1		8 "	18 17 0	12 16 0	7 12 4	7 12 4	...	
129	"	"	"	Ann Macphie	9 ¹ "	2 0 24	3 0 6		2 "	3 6 6	2 7 0	0 17 8	0 17 8	...	
130	"	"	"	Dugald MacLachlan	9 ² "	2 0 25	2 2 38		2 "	3 1 6	2 4 0	...	...	...	
131	"	"	"	Duncan Boyd	10 "	3 3 8	7 0 14		3 "	5 7 6	3 18 0	...	...	...	
132	"	"	"	Lachlan Maclean	11 "	3 3 39	4 1 37		3 "	5 16 0	3 16 0	4 13 0	2 13 0	2 0 0	Two " £1 "
133	"	"	"	Mrs Catherine Cameron	12 "	3 3 30	6 2 12		3 "	5 9 0	3 18 0	...	...	...	
134	"	"	"	Allan Henderson	13 "	3 1 3	6 1 19		3 "	4 12 8	3 7 0	2 0 11	2 0 11	...	
135	"	"	"	Mrs Jessie Cameron	14 "	3 2 8	8 3 31		3 "	4 15 6	3 10 0	16 7 6	12 17 6	3 10 0	Two " £2 & £1 10s.
136	"	"	"	Allan Cameron	16 ¹ "	2 3 4	7 3 1		2 "	3 0 10	2 5 0	4 3 6	2 3 6	2 0 0	Two " £1 each.
137	"	"	"	Donald Cameron	16 ² "	3 1 32	8 0 34		2 "	3 7 0	2 10 0	5 19 0	3 9 0	2 10 0	Two " £1 10s. & £1
138	"	"	"	Ann Boyd	17 ² "	3 - -	8 3 17		2 "	3 10 0	2 12 0	1 10 0	1 10 0	...	
139	"	"	"	Donald Cameron	18 ¹ "	2 0 36	5 1 9		2 "	3 6 8	2 7 0	1 8 11	1 8 11	...	
140	"	"	"	Donald Cameron	21 "	4 3 35	5 0 39		3 "	6 2 2	4 4 0	...	...	...	

* This right to surplus grazing and wintering, together with additional pasture of 1693 acres, and 51½ acres arable has since been assigned to the crofters of the Township of Blach, with the consent of the landlord, under Enlargement application by them. See App. H, page 103.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	Present Rent.	Fair Rent.	Total Amount.	Arrears.		Observations.
						Arable.	Outrun.	Ac. Ro. Po.					Ordered to be Paid.	Cancelled.	
141	Conaglen (Earl of Morton, Proprietor)	1892 Mar. 2	1893 July 11	Ewen Macdonald	22 ¹ Blach	Ac. Ro. Po. 2 3 -	Acres 1065	2 cows' grazing.	£ s. d. 3 17 6	£ s. d. 2 16 0	£ s. d. ...	£ s. d. ...	£ s. d. ...		
142	"	"	"	Mrs Jane Macinnes	22 ² "	4 - 8		1 "	2 16 8	2 2 0	3 16 7	1 0 0	2 16 7	Arrears payable in one Sum at Martinmas 1893.	
143	"	"	"	Mrs Margaret Maclean.	23	5 1 35		4 "	7 15 4	5 6 0	18 16 2	5 6 0	13 10 2	Two yearly Instalments of £3 & £2 6s.	
144	"	"	"	Widow Flora Macdougall	24 & 25 ¹ ,	16 1 25		5 "	10 18 4	8 10 0	1 13 4	...	1 13 4		
145	"	"	"	Margaret Boyd	25 ² "	10 3 36		2 "	3 10 0	2 6 0	1 0 0	...	1 0 0		
146	"	"	"	Angus Macinnes.	26	16 2 25		6 "	9 3 0	6 6 0	6 1 0	3 0 0	3 1 0	Two	£2 & £1
147	"	"	"	Alexander Macmillan	27	24 1 24		3 "	5 11 8	4 2 0	...	...	...		
148	"	"	"	Donald Rankine.	1 & 2 ¹ North Duisky	4 - 17		3 "	6 13 6	5 3 0	...	...	...		
149	"	"	"	Allan Macinnes	2 ² & 3 "	4 1 8		3 "	7 10 0	5 9 0	...	...	...		
150	"	1888 Dec. 31	"	Ewen Macintyre.	"	2 - 38		2 "	2 17 8	2 5 0	14 2 8	4 10 0	9 12 8	Two	£2 10s. & £2
151	"	"	"	Widow John Macmillan	"	11 3 31		2 "	3 14 0	2 18 0	11 4 6	4 0 0	7 4 6	Two	£2 each
152	"	"	"	John Cameron	"	11 3 31		2 "	3 0 0	2 12 0	13 12 0	4 10 0	9 12 0	Two	£2 "
153	"	1892 Mar. 2	"	Widow Ann Macachlan	2 South Garvan	5 1 18		1 "	2 0 0	1 11 0	9 18 10	2 0 0	7 18 10	Two	£1 "
154	"	"	"	Mrs Margaret Macintyre	5	3 - 12		2 "	3 5 8	2 10 0	9 16 6	4 0 0	5 16 6	Two	£2 "
155	"	"	"	John Boyd.	7	7 - 10		2 "	3 1 6	2 10 0	1 14 4	...	1 14 4		
156	"	1888 Dec. 31	"	John Kennedy	1	2 1 33		2 "	2 13 4	2 2 0	15 16 6	4 4 0	11 12 6	Two	£3 2s. "
157	"	"	"	Archibald Macphree	3	6 1 23		1 "	1 15 0	1 9 0	7 17 5	1 0 0	8 8 5	One Sum at Martinmas 1893.	
158	"	"	"	John Cameron	4	5 2 33		2 "	3 9 4	2 14 0	3 9 8	...	3 9 8		
159	"	"	"	Jessie Maclean	6	2 3 18		None	0 15 0	0 10 0	2 18 4	...	2 18 4		
160	"	"	"	Angus Mackinnon	8	1 2 30		2 cows' grazing.	3 3 0	2 0 0	2 11 0	...	2 11 0		

* The right to surplus grazing and wintering, together with additional pasture of 317 acres, and 92 $\frac{1}{2}$ acres arable, has since been assigned with the consent of the landlord to the crofters of North Duisky and Garvan, under an Enlargement application by them. See App. H, pages 101-2.

APP. A (2)—COUNTY OF ARGYLL (*continued*).—CROFTING PARISH OF ARDNAMURCHAN AND SUNART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
						Ac. Ro. Po.	Arable.	Ac. Ro. Po.	Common Pasture.			Total Amount.	Ordered to be Paid.	Cancelled.
161	Sunart (Sir Rodney S. Riddell, Bart., Proprietor)	1887 May 9	1893 July 11	Duncan Macpherson	Scotstoun	2 - -	- - -	1 - -	1100	£ s. d. 5 12 2	£ s. d. 3 10 0	£ s. d. 21 9 1	£ s. d. 8 0 0	£ s. d. 13 9 1
162	"	"	"	Archibald Cameron (Smith)	"	2 3 6	- - -	1 - 2		6 9 8	3 15 0	21 19 9	5 0 0	16 19 9
163	"	"	"	Hugh Kirsop	"	3 - -	- - -	- 2 21		6 7 6	3 15 0	14 5 0	...	14 5 0
164	"	"	"	Widow Mary Macmaster	"	2 2 29	- - -	- 2 1		6 8 4	3 16 0	37 8 6	7 12 0	29 16 6
165	"	"	"	Alexander Cameron (Og)*	"	1 3 5	- - -	- 6		2 6 9	1 19 9	...	...	...
166	"	"	"	John Macmaster	"	3 - 39	- - -	- 3 13		7 0 3	3 18 0	22 11 4	3 18 0	18 13 4
167	"	"	"	Jane Macpherson	"	3 2 27	- - -	- 1 38		6 16 0	3 16 0	34 0 0	9 0 0	25 0 0
168	"	"	"	Duncan Macmillan	"	2 - 4	- - -	- 2 10		3 7 4	2 2 0	8 5 0	...	8 5 0
169	"	"	"	Hugh Macpherson	"	1 1 18	- - -	- 1 14		3 7 4	1 18 0	23 5 0	10 0 0	13 5 0
170	"	"	"	Widow Catherine Macpherson*	"	1 - 19 { 2 - 20	- - -	- 1 17 1 2 1		7 19 6	6 0 0	13 15 3	8 15 3	5 0 0
171	"	"	"	Alexander Macinnes	"	1 1 17	- - -	- 1 11		2 19 6	1 10 0	5 9 3	...	5 9 3
172	"	"	"	Alexander Cameron (Mull)	"	2 1 34	- - -	- 3 8		3 7 6	3 12 0	44 11 3	10 0 0	34 11 3
173	"	"	"	Donald Macmaster	"	3 - -	- - -	- 1 -		6 16 0	3 16 0	14 8 0	...	14 8 0
174	"	"	"	Donald Maccoll	"	2 3 38	- - -	1 0 13		6 7 6	3 14 0	21 10 3	5 0 0	16 10 3
175	"	"	"	Christina Cameron	"	- 3 12	- - -	- 2 10		2 11 0	1 8 0	8 16 6	1 8 0	7 8 6
176	"	"	"	John Cameron	"	3 3 -	- - -	1 3 -		6 11 9	3 16 0	15 16 4	...	15 16 4
177	"	1888 Mar. 13	"	Donald Cameron (Smith)	"	1 1 32	- - -	- 1 25		3 3 9	1 12 0	16 14 4	3 0 0	13 14 4
178	"	1887 May 4	"	Archibald Cameron	"	3 - -	- - -	- 1 4		5 19 10	3 18 0	13 19 1	1 10 0	12 9 1
179	"	June 7 1889	"	John Macpherson	"	3 - -	- - -	- 1 17		6 12 7	3 18 0	4 12 7	...	4 12 7
180	"	Aug. 5	"	Hugh Macmaster	"	2 2 9	- - -	- 1 16		4 13 6	2 14 0	13 11 3	5 0 0	8 11 3

* See App. G (H), page 81.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent.	Fair Rent.	Arrears.		Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.
181	Sunart. (Sir Rodney S. Riddell, Bart., Proprietor)	1890 Mar. 13	1893 July 11	Flora Macdonald	Scotstown	Ac. Ro. Po. 1 - 13	Ac. Ro. Po. - - -	Acres 1100	1	£ s. d. 2 8 5	£ s. d. 1 10 0	£ s. d. 6 6 8	£ s. d. 1 10 0	£ s. d. 4 16 8
182	"	"	"	Ann Macmaster	"	2 1 10	- - -		1	3 8 0	1 16 0	8 8 0	2 0 0	6 8 0
183	"	" 25	"	Lachlan Maclean	"	4 3 21	1 1 27		4	9 7 0	5 12 0	48 1 3	15 0 0	33 1 3
184	"	May 30	"	Donald Macpherson	"	1 3 -	- - -		1½	3 15 8	2 0 0	...	...	...
185	"	Jan. 27	"	Angus Macmaster	"	2 2 -	1 - -		3	6 11 9	3 12 0	26 3 1	12 0 0	14 3 1
186	"	"	"	Mary Macpherson	"	- 3 6	- 2 14		1	2 6 9	1 6 0	6 3 1	1 6 0	4 17 1
187	"	"	"	Donald Stewart	"	1 - 15	- - -		None	1 11 5	1 0 0	9 19 7	3 0 0	6 19 7
188	"	1893 May 13	"	William Macpherson †	"	1 2 22	1 - 6		3	4 10 1	4 10 1	5 14 10	5 14 10	...
189	"	1887 May 31	"	Marjory and Allan Mac- kinnon	"	1 - -	- - -		None	1 11 5	1 0 0	2 9 11	...	2 9 11
190	"	June 13 1888	"	Colin Thomson	"	1 - 11	- - 18		"	1 2 11	1 0 0	...	...	...
191	"	Jan. 27 1897	"	Duncan Macphee	"	1 - -	- - 32		"	1 7 2	1 0 0	8 9 3	3 0 0	5 9 3
192	"	Apr. 2	"	Duncan and Allan Cameron	"	1 3 23	- - -		"	2 14 4	1 10 0	12 19 6	3 0 0	9 19 6
193	"	1889 May 23	"	Alexander Macpherson †	Ariundle	2 - 19	2 - 26*		"	16 0 0	13 0 0	16 0 0	4 0 0	12 0 0
194	"	1887 Mar. 18	"	Hugh Cameron (Post)	Anyheilt	3 1 19	3 3 -	850	1½	7 6 8	5 2 0	19 6 8	5 0 0	14 6 8
195	"	" 29	"	Donald Macmillan	"	2 - -	- 3 12		1	5 2 0	3 2 0	5 13 0	...	5 13 0
196	"	"	"	Catherine Cameron	"	2 1 -	3 2 -		1	5 6 3	3 8 0	26 16 10	8 0 0	18 16 10
197	"	"	"	Angus Cameron	"	2 1 -	1 1 7		1	5 2 0	3 4 0	10 17 0	...	10 17 0
198	"	"	"	Alexander Macphee	"	2 1 -	2 - -		1	4 9 3	2 18 0	16 3 1	5 0 0	11 3 1
199	"	"	"	Hugh Cameron (Loch)	"	1 3 23	2 3 12		1	5 2 0	3 3 0	20 3 0	6 0 0	14 3 0
200	"	"	"	Hugh Macmaster	"	3 1 -	3 3 12		1½	7 6 8	5 2 0	29 0 1	10 4 0	18 16 1

* Has grazing of 3 cows and 3 followers on Drumintorran Farm.

† See App. G (H), page 80.

‡ See App. G (M), page 85.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISH OF ARDNAMURCHAN AND SUNART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
201	Sunart (Sir Rodney S. Riddell, Bart., Proprietor)	1887 Apr. 2	1893 July 11	Duncan Cameron	Anyheilt	1 3 -	2 - -	2 - -	Acres 850	£ s. d. 4 11 5	£ s. d. 2 18 0	£ s. d. 17 5 7	£ s. d. 7 0 0	£ s. d. 10 5 7	Arrears payable in three yearly instalments of £3, £2 & £2
202	"	"	"	Allan Cameron	"	2 1 25	1 3 -	1 3 -	1	£ s. d. 4 12 8	£ s. d. 3 0 0	£ s. d. 25 0 6	£ s. d. 9 0 0	£ s. d. 16 0 6	Three " £3 each.
203	"	"	"	Hugh Macphie	"	2 3 -	1 - 15	1 - 15	1	£ s. d. 4 12 8	£ s. d. 3 3 0	£ s. d. 2 8 8	£ s. d. ...	£ s. d. 2 8 8	"
204	"	"	"	John Cameron (Miller)	"	5 - 12	2 - 36	2 - 36	2	£ s. d. 11 0 0	£ s. d. 6 12 0	£ s. d. 26 10 0	£ s. d. ...	£ s. d. 26 10 0	"
205	"	"	"	Donald Mackinnon	"	1 2 30	1 2 -	1 2 -	1	£ s. d. 4 13 6	£ s. d. 2 18 0	£ s. d. 10 7 9	£ s. d. ...	£ s. d. 10 7 9	"
206	"	1888 Jan. 20	"	Hugh Cameron	"	2 - -	1 - -	1 - -	1	£ s. d. 5 2 0	£ s. d. 3 3 0	£ s. d. 14 1 0	£ s. d. 3 0 0	£ s. d. 11 1 0	Two " £2 & £1
207	"	1887 Apr. 2	"	Widow Mary and John Cameron	"	2 2 -	- 3 -	- 3 -	1	£ s. d. 6 3 3	£ s. d. 3 8 0	£ s. d. 19 1 1	£ s. d. 3 0 0	£ s. d. 16 1 1	Two " £2 & £1
208	"	1888 Apr. 13	"	Alexander Macpherson	"	3 - -	2 3 -	2 3 -	2	£ s. d. 9 15 3	£ s. d. 5 7 0	£ s. d. 23 3 7	£ s. d. ...	£ s. d. 23 3 7	"
209	"	Oct. 7	"	Donald Macphie.	"	2 3 -	- 2 -	- 2 -	1	£ s. d. 5 12 8	£ s. d. 3 6 0	£ s. d. 17 1 6	£ s. d. 6 0 0	£ s. d. 11 1 6	Three " £2 each.
210	"	1890 Apr. 21	"	Angus Macintyre	"	2 - 22	1 - 32	1 - 32	1	£ s. d. 5 12 8	£ s. d. 3 2 0	£ s. d. 29 3 0	£ s. d. 15 0 0	£ s. d. 14 3 0	Three " £5 "
211	"	"	"	Mary Cameron	"	2 1 11	1 2 35	1 2 35	1	£ s. d. 5 4 7	£ s. d. 3 5 0	£ s. d. 11 16 9	£ s. d. 3 5 0	£ s. d. 8 11 9	Two " £2 & £1 5s.
212	"	May 30	"	John Rankine	"	2 - -	1 1 27	1 1 27	1	£ s. d. 5 8 5	£ s. d. 3 0 0	£ s. d. 36 14 4	£ s. d. 16 0 0	£ s. d. 20 14 4	Three " £6, £5 & £5
213	"	June 27	"	John Simpson †	"	2 - 12	1 - 22	1 - 22	1	£ s. d. 3 12 3	£ s. d. 3 12 3	£ s. d. ...	£ s. d. ...	£ s. d. ...	Agreement.
214	"	"	"	Duncan Cameron	"	1 3 24	1 - 8	1 - 8	1	£ s. d. 5 8 5	£ s. d. 3 2 0	£ s. d. 19 19 9	£ s. d. 10 0 0	£ s. d. 9 19 9	Three " £4, £3 & £3
215	"	"	"	Donald Macintyre	"	2 3 -	- 1 26	- 1 26	1	£ s. d. 6 1 2	£ s. d. 3 6 0	£ s. d. 43 3 9	£ s. d. 12 0 0	£ s. d. 31 3 9	Four " £3 each.
216	"	"	"	Ewen Young †	"	1 1 15	2 - -	2 - -	1	£ s. d. 3 12 3	£ s. d. 3 12 3	£ s. d. ...	£ s. d. ...	£ s. d. ...	Agreement.
217	"	"	"	Lachlan MacLachlan	"	2 - 11	1 - 30	1 - 30	1	£ s. d. 4 17 6	£ s. d. 3 0 0	£ s. d. 15 7 3	£ s. d. 6 0 0	£ s. d. 9 7 3	Three " £2 each.
218	"	"	"	Hugh Macpherson †	"	1 3 29	1 1 30	1 1 30	1	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. ...	£ s. d. ...	£ s. d. ...	"
219	"	"	"	Alexander Macphie	"	2 - 4	1 - 10	1 - 10	1	£ s. d. 4 6 8	£ s. d. 3 3 0	£ s. d. 2 3 4	£ s. d. ...	£ s. d. 2 3 4	"
220	"	1887 Apr. 27	"	Alexander Macphail	"	1 2 6	2 - -	2 - -	1	£ s. d. 4 13 6	£ s. d. 2 16 0	£ s. d. 5 4 10	£ s. d. ...	£ s. d. 5 4 0	"
221	"	1890 June 27	"	Ann Macmaster	Ardmastaing.	1 2 6	- - -	- - -	2	£ s. d. 3 12 3	£ s. d. 2 5 0	£ s. d. 1 15 1	£ s. d. ...	£ s. d. 1 15 1	"
222	"	"	"	John Macmaster	"	1 2 8	- 1 -	- 1 -	2	£ s. d. 3 12 3	£ s. d. 2 5 0	£ s. d. 1 15 10	£ s. d. ...	£ s. d. 1 15 10	"

† See App. G (L), page 85.

† See App. G (H), page 81.

APP. A. (2)—COUNTY OF ARGYLL (*continued*).—CROFTING PARISHES OF ARDNAMURCHAN AND SUNART, AND KILBRANDON AND KILCHATTAN.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
223	Sunart (Sir Rodney S. Riddell, Bart., Proprietor)	1890 June 27	Duncan Macmillan	Ardnastaing	1 2 11	—	Ac. Ro. Po. — — —	Acres 130	£ s. d. 3 15 10	£ s. d. 2 6 0	£ s. d. ...	£ s. d. ...	£ s. d. ...	
224	"	"	John Macmaster	"	2 1 30	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 4 2 5	£ s. d. 2 10 0	16 10 10	10 0 0	6 10 10	Arrears payable in three yearly instalments of £4, £3 & £3
225	"	"	Mary Macdonald †	"	1 — 30	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 3 3 9	£ s. d. 2 10 0	...	...	...	
226	"	1887 June 25	Allan Cameron (Joiner)	"	2 1 30	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 5 2 0	£ s. d. 2 15 0	22 12 0	7 0 0	15 12 0	Three ,, £3, £2 & £2
227	"	"	Angus Cameron	"	3 1 —	1 2 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 5 7 6	£ s. d. 3 4 0	29 15 1	10 0 0	19 15 1	Three ,, £4, £3 & £3
228	"	Apr. 27	Alexander Macarthur	"	4 3 —	3 2 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 8 0 0	£ s. d. 5 18 0	28 2 0	14 0 0	14 2 0	Three ,, £5, £5 & £4
229	"	Nov. 7	Mrs Ann MacLachlan	"	1 1 —	1 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 4 2 5	£ s. d. 4 2 5	...	...	...	Agreement.
230	"	1890 May 30	Margaret Cowan	"	— 1 —	1 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 3 7 0	£ s. d. 2 10 0	...	...	...	"
231	"	Apr. 12	Peter Macmaster	"	— 3 34	— 2 6	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 3 3 9	£ s. d. 2 5 0	9 9 4	4 0 0	5 9 4	Two yearly instalments of £2 each.
232	"	" 3	Thomas Chalmers Cameron	Woodend	2 1 30	1 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 5 2 0	£ s. d. 3 10 0	7 12 0	2 0 0	5 12 0	One Sum at Martinmas 1893.
233	"	1887 May 9	Sarah Macphie	Bunaleachan	1 2 3	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 5 19 0	£ s. d. 2 15 0	38 12 6	5 10 0	33 2 6	Two yearly instalments of £3 & £2 10s.
234	"	1888 Mar. 20	Donald Cameron (Ground Officer)	Camuschorick	3 — —	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 7 8 9	£ s. d. 4 10 0	25 10 7	10 0 0	15 10 7	Three ,, £4, £3 & £3
235	"	"	Thomas Cameron	"	3 — —	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 7 8 9	£ s. d. 4 2 0	23 15 7	8 0 0	15 15 7	Three ,, £3, £3 & £2
236	"	"	Ann Macpherson	"	2 — —	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 6 11 9	£ s. d. 3 0 0	44 9 1	6 0 0	38 9 1	Three ,, £2 each.
237	"	"	Donald Cameron (Archibald)	"	1 1 —	—	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 3 5 1	£ s. d. 1 12 0	6 12 11	...	6 12 11	
238	"	1887 Oct. 22	Marjory Cameron	Camusine	3 1 38	2 7 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 7 4 5	£ s. d. 5 13 0	18 3 3	8 0 0	10 3 3	Three ,, £3, £3 & £2
239	"	1889 Oct. 2	Angus Mackenzie	Ardshealach	4 — —	15 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 4 5 0	£ s. d. 3 8 0	5 2 6	2 0 0	3 2 6	One Sum at Martinmas 1893.
240	Breadalbane (Marquis of Breadalbane, Proprietor)	1889 Feb. 12	Mrs Mary Ann Maclean or Hill ‡	Oban Seil (Kilbrandon and Kilchattan)	8 — —	14 2 —	—	26 of which were dealt with. Sowing 1 cow and follower to each share.	£ s. d. 19 10 0	£ s. d. 12 0 0	88 5 0	18 0 0	70 5 0	Two Instalments of £12 & £6

* Has grazing of 2 cows, 1 heifer till 3 years old, and 2 stirks till 1 year old, in Camusine Wood.

† See App. G (H), page 81.

† Has grazing of 4 cows and followers in Camusine Wood.
§ See App. G (N), page 86.

APP. A (2)—COUNTY OF ARGYLL (*continued*).—CROFTING PARISHES OF KILCHRENAN AND DALAVICH, GLASSARY, NORTH KNAPDALE AND SOUTH KNAPDALE.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Acres.				Total Amount.	Ordered to be Paid.	Cancelled.	
241	Innistrynich. (W. Campbell Muir, Proprietor)	1892 Jan. 11	John Macintyre.	Kilchrenan (Kilchrenan and Dalavich)	Ac. Ro. Po. 1 2 -	Ac. Ro. Po. - - -	Acres. 123	1 ¹ / ₂	£ s. d. 6 0 0	£ s. d. 3 10 0	£ s. d. ...	£ s. d. ...	£ s. d. ...	
242	Cumloiden. (Lady Campbell, Proprietrix)	1891 Feb. 4	Archibald Crawford †.	Inverae (Glassary)	2 2 -	- - -	1 cow's grass on Inverae Hill of 400 acres	10 0 0	10 0 0	7 0 0	...	...	...	
243	"	"	Alexander Crawford †.	"	2 2 -	- - -	2 "	11 17 6	8 10 0	...	...	...	...	
244	Inverneill. (Captain Duncan Campbell, Proprietor)	1892 Aug. 27	Malcolm MacLachlan.	Tayvallich (North Knapdale)	2 - -	- - -	Right to graze 1 cow on Tayvallich Park	4 10 0	3 0 0	4 10 0	...	...	4 10 0	
245	Ross. (Captain Duncan Campbell, Proprietor)	Jan. 22	Alexander Fairlie.	Kentallen.	3 - -	1 - -	Right to graze 2 cows on Kentallen Hill	10 0 0	7 0 0	10 15 3	...	...	10 15 3	
246	Castleton. (R. C. Graham Campbell, Proprietor)	1890 May 27	Peter Whyte.	Silvercraigs (Glassary)	4 2 37	- - -	185	11 0 0	8 0 0	...	...	...	...	
247	"	"	Alexander Whyte.	"	4 2 12	- - -	1 ¹ / ₂ *	11 0 0	8 7 0	...	...	...	...	
248	"	June 4	John Macewen.	"	5 1 22	- - -	1 ¹ / ₂ *	15 0 0	11 15 0	...	...	...	...	
249	"	10 1893 Jan. 26	Duncan Campbell.	"	2 1 20	- - -	1 ¹ / ₂	7 10 0	5 5 0	...	...	...	...	
250	Stonefield. (Colin George P. Clinton Campbell, Proprietor)	"	Duncan Mackellar.	Cove (South Knapdale)	2 1 24	1 - 21	None	15 0 0	11 0 0	52 10 0	15 0 0	37 10 0	Arrears payable in three yearly instalments of £5 each.	
251	"	1887 Feb. 24	Malcolm Carmichael.	Bruaghnaach	4 3 36	11 2 36	None	12 0 0	7 10 0	66 0 0	30 0 0	36 0 0	Three "	£10 "
252	"	"	Neil Smith.	Bahuerach.	3 3 13	1 2 34	None	7 12 0	4 0 0	30 8 0	10 0 0	20 8 0	Three "	£4, £3 & £1
253	"	"	John Macfarlane §.	Laghuine.	1 1 11	- - -	1 cow's grass on Tarbert Common	6 11 0	3 10 0	27 4 0	7 0 0	20 4 0	Two "	£4 & £3

* Has also right of grazing 1 horse on common pasture.

† See App. G (I), page 84.

‡ See App. G (I), page 84.

§ See App. G (K), page 84.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
					Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
254	Torrisdale . (Colonel Carrick Buchanan, Proprietor)	1890 Mar. 14	Neil Mitchell .	Auchinlarriad (Saddell and Skipness)	$\left\{ \begin{array}{l} 10 \\ - \\ - \end{array} \right\}$	$\left\{ \begin{array}{l} 5 \\ - \\ - \end{array} \right\}$	*		14 0 0	11 15 0	24 15 3	15 0 0	9 15 3	Arrears payable in three yearly instalments of £5 each.
255	"	"	Archibald Maccallum .	Bragchoire .	$\left\{ \begin{array}{l} 5 \\ - \\ - \end{array} \right\}$	$\left\{ \begin{array}{l} 4 \\ - \\ - \end{array} \right\}$	*		9 0 0	7 8 0	15 19 6	7 8 0	8 11 6	Two ,, £4 8s. & £3
256	"	"	John Macmillan .	Torrisdale .	$\left\{ \begin{array}{l} 4 \\ - \\ - \end{array} \right\}$	$\left\{ \begin{array}{l} 3 \\ - \\ - \end{array} \right\}$	*		6 0 0	5 10 0	23 10 0	15 0 0	8 10 0	Three ,, £5 each.
257	"	"	John Macainsh .	Greenhill .	- 2 -	- 2 -	†		6 0 0	4 0 0	3 0 0	...	3 0 0	
258	"	"	Archibald Maccallum §	Torrisdale Shore	- 1 -	- - -	†		7 0 0	5 0 0	...	...	...	
259	Kildalton . (Executors of the late John Ramsay, Proprietors)	1893 May 2	Peter Campbell .	Lotts . (Kildalton and Oa)	14 - -	126 - -			8 0 0	6 0 0	...	...	...	
260	"	"	Archibald Maclean .	"	10 - -	40 - -	†		3 0 0	3 10 0	...	...	...	
261	"	"	Malcolm Macneil .	"	2 - -	18 - -	None.	None.	3 0 0	2 10 0	...	...	...	
262	"	"	Alexander Macintyre .	"	12 - -	36 - -	"	"	3 0 0	3 0 0	...	...	...	
263	"	"	John Macgibbon .	"	2 - -	18 - -	"	"	2 0 0	2 0 0	...	...	...	
264	"	"	Peter Reid .	"	8 - -	62 - -	"	"	2 10 0	2 15 0	8 10 0	5 10 0	3 0 0	Two half-yearly instalments of £2 15s. each.
265	"	"	Helen Muir .	"	6 - -	44 - -	"	"	3 0 0	1 15 0	19 10 0	5 0 0	14 10 0	Two ,, £2 10s. "
266	"	"	Hugh Macmillan .	Lotts Dutch .	9 - -	16 - -	"	"	2 0 0	2 0 0	5 0 0	5 0 0	...	Two ,, £2 10s. "
267	"	"	Neil Macdiarmid .	"	8 - -	19 - -	"	"	1 10 0	1 15 0	...	...	...	
268	"	"	Neil Macneil .	"	4 - -	21 - -	"	"	3 0 0	1 15 0	20 10 0	3 10 0	17 0 0	Two ,, £1 15s. "
269	"	"	James Macdonnig .	Cragabus .	23 - -	- - -	600	‡	20 9 0	15 10 0	20 9 0	10 0 0	10 9 0	Two ,, £5 "

* Has grazing of 2 cows on Dippen Hill.

† Has grazing of 1 cow on Lippincorach Farm.

‡ Has right of grazing in common with Messrs Jackson, farmers, in 50 acres or thereby of Moss adjacent to Holding.
§ See App. G (O), page 86.

APP. A (2)—COUNTY OF ARGYLL (continued).—CROFTING PARISHES OF KILDALTON AND OA, KILARROW AND KILMENY, AND KILCHOMAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.	Arrears.		Cancelled.	Observations.
						Arable.	Outrun.	Common Pasture.					Ordered to be Paid.			
270	Kildalton (Executors of the late John Ramsay, Proprietors)	1893 May 2	1893 Dec. 15	Alexander Graham	Cragabhis	Ac. Ro. Po. 23 — —	Ac. Ro. Po. — — —	Acres 600	£ s. d. 20 9 0	£ s. d. 15 10 0	£ s. d. 20 5 7	£ s. d. 10 0 0	£ s. d. 10 5 7	£ s. d. 28 16 2	£ s. d. 9 8 1	Arrears payable in two half-yearly Instalments of £5 each.
271	"	"	"	John Gilchrist	"	23 — —	— — —	"	20 5 7	15 10 0	20 5 7	10 0 0	10 5 7	28 16 2	9 8 1	Three " £10 "
272	"	"	"	Neil Macdewan	"	23 — —	— — —	"	20 5 7	15 10 0	20 5 7	10 0 0	10 5 7	28 16 2	9 8 1	Two " £7 "
273	"	"	"	John Calder, senior	Coillebus	35 — —	13 2 —	None	18 0 0	14 0 0	53 16 2	30 0 0	30 0 0	28 16 2	9 8 1	Three " £10 "
274	"	"	"	John Calder, junior	"	35 — —	13 2 —	"	18 0 0	14 0 0	23 8 1	14 0 0	14 0 0	28 16 2	9 8 1	Two " £7 "
275	"	"	"	Duncan Campbell	Killeyan *	27 — —	105 — —	"	22 0 0	16 6 0	...	...	...	28 16 2	9 8 1	Three " £6 "
276	"	June 3	"	Neil Maclean	Curalach (Kilarrow and Kilmeny)	25 — —	91 2 —	"	14 0 0	9 10 0	28 0 0	18 0 0	18 0 0	28 16 2	9 8 1	Three " £6 "
277	Islay (Charles Morrison, Proprietor)	1889 Feb. 7	"	John Ferguson	Tornisdale (Kilchoman)	32 — —	100 — —	"	24 17 4	20 5 0	16 11 2	...	...	16 11 2	...	Three " £6 "
278	Sunderland (James Smith, Proprietor)	1887 May 27	"	Peter Macdellan	Woodside Cottage	2 2 —	— — —	"	6 0 0	6 0 0	...	...	...	16 11 2	...	Three " £6 "
279	Cladville, (Mrs Baker, Proprietrix)	1886 Dec. 11	"	Donald Murdoch	Claddach	13 — —	13 — —	"	12 0 0	7 10 0	10 0 0	...	...	10 0 0	...	Three " £8, £6 & £6.
280	"	"	"	Archibald Macarthur	"	12 — —	12 3 —	"	12 0 0	7 10 0	24 0 0	...	...	24 0 0	...	Three " £8, £6 & £6.
281	"	"	"	Nicol Mackinnon	"	12 — —	12 3 —	"	12 0 0	7 10 0	51 10 0	20 0 0	20 0 0	31 10 0	...	Three " £8, £6 & £6.
282	"	"	"	Archibald Ferguson	"	5 2 —	5 — 37	"	6 0 0	3 15 0	9 0 0	...	...	9 0 0	...	Three " £8, £6 & £6.
283	"	"	"	Gilbert Macallister	"	5 2 —	5 2 30	"	6 0 0	3 15 0	9 0 0	...	...	9 0 0	...	Three " £8, £6 & £6.
284	"	"	"	Christina Ferguson or Macallister	"	5 2 —	5 2 30	"	6 0 0	3 15 0	7 0 0	...	...	7 0 0	...	Three " £8, £6 & £6.
285	"	"	"	Duncan Ferguson	"	5 2 —	5 — 37	"	6 0 0	3 15 0	9 0 0	...	...	9 0 0	...	Three " £8, £6 & £6.
286	"	1887 Jan. 1	"	Neil Smith	"	7 — —	15 — 35	"	9 0 0	9 0 0	4 10 0	4 10 0	4 10 0	...	...	One Sum at Whitsunday 1894.
287	"	"	"	Alexander Currie	"	12 — —	47 1 30	"	19 0 0	14 0 0	9 10 0	...	...	9 10 0	...	One Sum at Whitsunday 1894.

* See App. G (R), page 83.

+ See App. G (P), page 87.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1	Rassay (Mrs Wood, Proprietrix)	1892 Nov. 11	1893 July 11	Murdoch Macleod	Unachan (Portree)	3 - -	96 - -	172	1	£ s. d. 2 13 0	£ s. d. 2 13 0	£ s. d. ...	£ s. d. ...	£ s. d. ...	
2	Macleod (Macleod of Macleod, Proprietor)	1889 Apr. 5	"	Alexander Mackenzie	Struanmore (Bracadale)	3 3 1	1 3 1		1	3 0 0	2 10 0	12 10 0	5 0 0	7 10 0	Arrears payable in three yearly instalments of £2, £2 & £1 £2 each.
3	"	"	"	Hugh Macdonald	"	3 - 33	1 2 27		1	3 0 0	2 10 0	8 11 10½	4 0 0	4 11 10½	Two " £2 "
4	"	"	"	Malcolm Macleod	"	2 3 21	1 2 3		1	3 0 0	2 10 0	8 0 0	4 0 0	4 0 0	Two " £2 "
5	"	"	"	John Campbell	"	3 2 21	1 2 33		1	3 0 0	2 10 0	3 0 0	...	3 0 0	" " £2 "
6	"	"	"	Neil and Duncan Macdonald	"	8 2 1	8 1 23		2	6 0 0	5 0 0	6 0 0	2 0 0	4 0 0	One Sum at Martinmas 1893.
7	"	"	"	Widow Catherine Anderson or Maclean	"	3 2 35	2 3 -		1	3 0 0	2 10 0	8 5 4½	4 0 0	4 5 4½	Two yearly Instalments of £2 each.
8	"	" 11	"	Effy Morrison	"	3 2 13	1 1 9		1	3 0 0	2 10 0	14 4 0	2 0 0	12 4 0	Two " £1 "
9	"	" 1893 Apr. 4	"	Donald Campbell	"	4 3 23	4 - 16		1	3 0 0	2 10 0	1 0 0	...	1 0 0	" " £1 "
10	"	"	"	Donald Macdonald	"	3 1 10	1 - 37		1	3 0 0	2 10 0	13 4 0	2 10 0	10 14 0	Two " £1 10s. & £1
11	"	"	"	John Nicolson	"	3 2 -	1 3 -		1	3 0 0	2 10 0	3 0 0	...	3 0 0	" " £1 10s. & £1
12	"	"	"	Widow Ann Macraill or Maclean	"	3 - 26	1 - 2		1	3 0 0	2 10 0	13 0 0	5 0 0	8 0 0	Three " £2, £2 & £1
13	"	"	"	Alexander Campbell	"	3 - 36	2 - 20		1	3 0 0	2 10 0	8 15 0	4 0 0	4 15 0	Two " £2 each.
14	"	" 10	"	Murdo Matheson	"	3 3 25	- 2 3		1	3 0 0	2 10 0	6 19 0	3 0 0	3 19 0	Two " £1 10s. "
15	"	"	"	Margaret Macleod	"	1 2 32	1 - 2		1	1 10 0	1 5 0	5 10 0	1 5 0	4 5 0	One Sum at Martinmas 1893.
16	"	"	"	Angus Macdonald	"	3 1 18	2 - 37		1	3 0 0	2 10 0	7 10 10½	3 10 0	4 0 10½	Two yearly Instalments of £2 & £1 10s.
17	"	"	"	Janet Macaskill	"	1 2 32	1 - 2		1	1 10 0	1 5 0	4 0 0	1 0 0	13 0 0	One Sum at Martinmas 1893.
18	"	"	"	Flora Stewart	"	3 - 14	2 - 8		1	3 0 0	2 10 0	15 7 1	5 0 0	10 7 1	Three yearly Instalments of £2, £2 & £1
19	"	"	"	Donald Macleod	"	3 3 4	3 3 14		1	3 0 0	2 10 0	7 0 10½	3 0 0	4 0 10½	Two " £1 10s. each.
20	"	" 9	"	John Maclean	Ebost	1 1 11	1 - 16		*	2 10 0	2 0 0	1 5 0	...	1 5 0	

* Right to graze 1 cow on Ebost Farm.

APP. A (3)—COUNTY OF INVERNESS (continued).—CROFTING PARISHES OF BRACADALE, AND DURINISH.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
21	Macleod (Macleod of Macleod, Proprietor)	1889 Apr. 9	1893 July 11	Alexander Macintosh	Ebost (Bracadale)	Ac. Ro. Po. 1 - 21	Ac. Ro. Po. 1 - 24	Acres Right to 1 cow on Farm.	graze Ebost	£ s. d. 2 10 0	£ s. d. 2 0 0	£ s. d. 13 1 4	£ s. d. 4 0 0	£ s. d. 9 1 4	Arrears payable in three yearly Instalments of £2, £1 & £1
22	"	" 16	"	Widow Marion Macrae or Mackay	Herebost (Durinish)	2 3 1	7 2 20	306* 1180		1 10 0	2 0 0	...	...	...	
23	"	"	"	Donald Macdonald	Roshkill	1 - 30	- 1 -	None.	None.	0 10 0	0 10 0	...	...	...	
24	"	"	"	William Campbell	"	4 - 17	- 1 28	Have right to graze 2 cows and 2 strikes on 1180	graze common district	2 10 0	2 10 0	2 10 0	2 10 0	...	Two " £1 5s. each.
25	"	"	"	Malcolm Mackay	"	3 2 35	1 2 32			2 1 6	2 1 6	2 3 0	2 3 0	...	Two " £1 3s. & £1
26	"	"	"	John Macdonald.	"	3 1 8	5 2 35			1 19 0	1 19 0	1 18 0	1 18 0	...	Two " £1 & 18s.
27	"	" 11	"	Margaret Macaskill	Kilmuir	3 2 16	1 - 12	Right to graze 2 cows and 2 strikes on Kil-muir common	graze and 2 strikes on Kil-muir common	2 9 10	2 9 10	...	...	...	
28	"	1892 Oct. 6	"	William Macleod +	Kinloch	21 1 34	24 - -	None	None	5 6 5	10 0 0	28 12 10	10 0 0	18 12 10	Two " £5 each.
29	"	1891 Apr. 8	"	John Macrae	Soay (Bracadale)	1 - -	- - -	2604	2 cows grass	2 10 0	2 0 0	11 0 0	4 0 0	7 0 0	Two " £2 "
30	"	"	"	John Campbell	"	1 - -	- - -		2 "	2 10 0	1 15 0	7 10 0	3 0 0	4 10 0	Two " £1 10s. "
31	"	"	"	Donald Macrae	"	1 - -	- - -		2 "	2 10 0	2 0 0	...	...	...	
32	"	"	"	Donald Campbell	"	- 2 -	- - -		1 "	1 10 0	1 0 0	6 0 0	2 0 0	4 0 0	Two " £1 "
33	"	"	"	John Macdonald.	"	1 - -	- - -		2 "	2 10 0	2 0 0	3 0 0	1 0 0	2 0 0	One Sum at Martinmas 1893.
34	"	"	"	Angus Stewart	"	1 - -	- - -		2 "	2 10 0	2 0 0	11 0 0	4 0 0	7 0 0	Two yearly Instalments of £2 each.
35	"	"	"	Neil Campbell	"	- 2 -	- - -		1 "	1 10 0	1 0 0	6 0 0	3 0 0	3 0 0	Two " £1 10s. "
36	"	"	"	Alexander Macaskill	"	1 2 -	- - -		3 "	3 10 0	2 15 0	10 2 6	5 0 0	5 2 6	Two " £2 10s. "
37	"	Nov. 25	Dec. 15	Donald Cameron	"	1 - -	- - -		2 "	2 10 0	1 15 0	...	...	...	
38	"	"	"	Ronald Macdonald	"	- 2 -	- - -		1 "	1 10 0	1 0 0	9 0 0	3 0 0	6 0 0	Two half-yearly Instalments of £1 10s. "
39	"	"	"	Mrs Ann Mackay or Lamont	"	- 2 -	- - -		1 "	1 10 0	1 0 0	4 10 0	2 0 0	2 10 0	" " £1 "
40	"	"	"	John Stewart	"	1 - -	- - -		2 "	2 10 0	1 15 0	10 0 0	3 10 0	6 10 0	" " £2 & £1 10s. "

* Has right to graze 1 cow on 306 acres special grazing and 1 cow on 1180 acres common pasture.

† See App. G, page 89.

APP. A (3)—COUNTY OF INVERNESS (continued).—CROFTING PARISHES OF DUIRINISH, NORTH UIST, AND HARRIS.

33

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Acres.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
41	Glendale (Trustees of Rev. H. A. Macpherson, Proprietors)	1891 Feb. 11	1893 July 11	Alexander Macaskill	Colboist (Duirinish)	4 3 15	37 1 5	894	1*	6 5 0	4 5 0	21 5 0	6 0 0	15 5 0	Arrears payable in three yearly instalments of £2 each.
42	"	"	"	Neil Maclean	"	2 1 26	1 1 14			2 12 0	1 16 0	8 11 7	3 0 0	5 11 7	Two ,, £1 10s. "
43	Husabost (Nicol Martin, Proprietor)	1893 Apr. 4	"	Donald Mackinnon	Ferrinvie-quarrie	2 1 -	1 2 1		1	1 15 0	1 15 0	...	...	...	
44	North Uist (Sir J. W. P. Campbell Orde, Bart., Proprietor)	1892 Apr. 27	"	Donald Anderson	Lochmaddy (North Uist)	3 3 -	3 - -			2 0 0	2 0 0	...	...	...	
45	North Harris (Trustees of Sir E. H. Scott, Bart., Proprietors)	1890 Sept. 29	"	Kenneth Macaskill	Eileanana-buich (Harris)	2 3 8	26 - 32	2274		2 10 0	2 0 0	15 15 0	6 0 0	9 15 0	Three ,, £3, £1 10s. & £1 10s.
46	"	"	"	Rachael Macleod	"	3 3 24	33 - 16			4 7 6	3 5 0	43 13 3	5 0 0	38 13 3	Three ,, £2, £1 10s. & £1 10s.
47	"	"	"	Donald Macleod	"	6 - 12	29 3 28			7 2 8	5 0 0	64 18 11	20 0 0	44 18 11	Three ,, £8, £6 & £6
48	"	"	"	Donald Shaw	"	4 - 8	45 3 32			3 10 2	2 12 0	25 1 4	8 0 0	17 1 4	Three ,, £4, £2 & £2
49	"	" 26	"	Angus Macdiarmid	Marig	2 3 8	25 - 32	1690	1	2 0 0	2 0 0	7 12 6	7 12 6	...	Three ,, £3, £2 12s. 6d. & £2
50	"	"	"	Alexander Morrison	"	2 - -	19 - -		1	2 0 0	2 0 0	8 2 6	8 2 6	...	Three ,, £3, £3 & £2 2s. 6d.
51	"	"	"	William Macleod	"	1 3 20	17 - 20		1	2 0 0	2 0 0	10 7 6	4 0 0	6 7 6	Two ,, £2 each.
52	"	"	"	Malcolm Macdonald	"	2 - -	24 2 -		1	2 0 0	2 0 0	11 16 5	11 16 5	...	Three ,, £5, £3 16s. 5d. & £3
53	"	"	"	Alexander Martin	"	1 2 27	13 1 13		1	2 0 0	2 0 0	7 12 6	7 12 6	...	Three ,, £3, £2 12s. 6d. & £2
54	"	"	"	Donald Morrison	"	1 2 27	17 1 13		1	2 0 0	2 0 0	4 12 6	4 12 6	...	Two ,, £2 12s. 6d. & £2
55	"	"	"	Murdo Macdonald	Scaladale	1 - 35	75 3 5		1	2 0 0	2 0 0	11 7 6	4 0 0	7 7 6	Three ,, £2, £1 & £1
56	"	"	"	John Macswen	"	1 - 35	75 3 5		1	2 0 0	2 0 0	...	...	...	
57	"	" 29	"	John Macleod	Bowglass	2 3 32	12 2 8	576		2 0 0	2 10 0	...	...	...	
58	"	"	"	Donald Morrison	"	2 3 32	12 2 8			2 0 0	2 10 0	...	...	...	

* Has also $\frac{1}{2}$ share in Leinish Common.

APP. A (3)—COUNTY OF INVERNESS. (continued).—CROFTING PARISH OF HARRIS.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.	
59	North Harris (Trustees of Sir E. H. Scott, Bart., Proprietors)	1890 Sept. 29	Malcolm Shaw	Bunavoneader	2 1 27	68 1 29		402 Acres Common to 8 Crofters.	£ 2 0 0	£ s. d. 2 0 0	£ s. d. 4 17 6	£ s. d. 4 17 6	...	Arrears payable in two yearly Instalments of £2 17s. 6d. & £2
60	"	"	Murdo Martin	"	2 - -	26 1 28			2 0 0	2 0 0	...	...	...	
61	"	"	Donald Macdonald	"	2 1 27	68 1 29			2 0 0	2 0 0	4 5 0	4 5 0	...	Two " £2 5s. & £2
62	"	"	John Mackay	Leosavay	2 1 11	- - -		1873	2 0 0	2 0 0	4 9 6	4 9 6	...	Two " £2 9s. 6d. & £2
63	"	"	George Macleannan	"	1 2 8	- - -			2 0 0	2 0 0	10 17 6	4 0 0	6 17 6	Two " £2 each.
64	"	"	Donald Macleannan	Govic	2 - -	- - -		Common to 7 Crofters.	2 0 0	2 0 0	5 12 6	4 0 0	1 12 6	Two " £2 each.
65	"	"	Malcolm Macleannan	"	2 - -	- - -			2 0 0	2 0 0	3 7 6	3 7 6	...	Two " £2 & £1 7s. 6d.
66	"	"	Norman Macleannan	"	2 - -	- - -			2 0 0	2 0 0	16 7 6	8 0 0	8 7 6	Three " £3, £3 & £2
67	"	"	Donald Maclean	Bedersaig	1 2 27	- - -			2 0 0	2 0 0	15 2 6	7 0 0	8 2 6	Three " £3, £2 & £2
68	"	"	Finlay Macleannan	"	1 2 27	- - -			2 0 0	2 0 0	14 7 6	6 0 0	8 7 6	Three " £3, £1 10s. & £1 10s.
69	"	"	Finlay Macdonald	Luachair	1 3 8	9 2 32		1845	2 0 0	2 0 0	16 7 6	8 0 0	8 7 6	Three " £3, £3 & £2
70	"	"	John Macaskill	"	1 3 8	9 2 32			2 0 0	2 0 0	16 7 6	8 0 0	8 7 6	Three " £3, £3 & £2
71	"	"	John Macdonald	Diorisgail	1 2 27	12 2 29		Common to 5 Crofters.	2 0 0	2 0 0	8 16 7	4 0 0	4 16 7	Two " £2 each.
72	"	"	Norman Macdonald	"	1 2 27	12 2 29			2 0 0	2 0 0	10 16 5	6 0 0	4 16 5	Three " £2 "
73	"	"	Widow Ann Macleannan and Murdo Macleannan	"	1 2 27	12 2 29			2 0 0	2 0 0	10 17 2	4 0 0	6 17 2	Two " £2 "
74	"	"	Malcolm Mackay	Scarp	2 1 32	11 1 32		2395	4 7 6	2 5 0	55 19 6	8 0 0	47 19 6	Three " £3, £3 & £2
75	"	"	Widow Euphemia Macdonald	"	2 1 32	11 1 32			4 7 6	2 5 0	67 9 0	5 0 0	62 9 0	Three " £2, £2 & £1
76	"	"	Roderick Macleannan	"	2 2 11	6 - 29			4 7 6	2 5 0	43 10 0	6 0 0	37 10 0	Three " £2 each.
77	"	"	John Macdonald (Angus's son)	"	2 - 13	7 - 3		Divided into 16 shares, all dealt with.	4 7 6	2 5 0	44 5 0	6 0 0	38 5 0	Three " £2 "
78	"	"	Angus Macleannan (D.'s son)	"	2 2 11	6 - 29			4 7 6	2 5 0	57 7 0	8 0 0	49 7 0	Three " £3, £3 & £2
79	"	"	John Macdonald (Finlay's son)	"	2 - 13	7 - 3			4 7 6	2 5 0	69 7 11	8 0 0	61 7 11	Three " £3, £3 & £2
80	"	"	Donald Maclean	"	2 1 35	2 2 35			4 7 6	2 5 0	44 1 0	8 0 0	36 1 0	Three " £3, £3 & £2

APP. A (3)—COUNTY OF INVERNESS (continued).—CROFTING PARISH OF HARRIS.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.		Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.	
81	North Harris (Trustees of Sir E. H. Scott, Bart., Proprietors)	1890 Sept. 29	1893 July 1	Kenneth MacInnes	Scarp	Ac. Ro. Po. 2 1 35	Ac. Ro. Po. 2 2 35	Acres. 2395	£ s. d. 4 7 6	£ s. d. 2 5 0	£ s. d. 53 12 0	£ s. d. 8 0 0	£ s. d. 45 12 0	Arrears payable in three yearly Instalments of £3, £3 & £2
82	"	"	"	Murdo Maclean	"	2 1 8	5 3 37		4 7 6	2 5 0	52 2 6	7 0 0	45 2 6	Three "
83	"	"	"	Widow Ann MacLennan or Macdonald	"	2 1 8	5 3 37		4 7 6	2 5 0	42 9 0	2 5 0	40 4 0	Two "
84	"	"	"	Angus MacInnes	"	2 1 10	3 2 14		4 7 6	2 5 0	63 10 0	4 0 0	59 10 0	Three "
85	"	"	"	John Macdonald, junior	"	2 1 10	3 2 14		4 7 6	2 5 0	33 9 6	5 0 0	28 9 6	Two "
86	"	"	"	John MacLennan	"	1 1 24	6 - 8		4 7 6	2 5 0	59 1 1	7 0 0	52 1 1	Three "
87	"	"	"	John Angus Macdonald	"	1 1 24	6 - 8		4 7 6	2 5 0	45 12 6	6 0 0	39 12 6	Three "
88	"	"	"	Angus Macleod	"	2 1 24	2 3 16	(See preceding page.)	4 7 6	2 5 0	58 2 7	6 0 0	52 2 7	Three "
89	"	"	"	Murdo Macaskill	"	2 1 24	2 3 16		4 7 6	2 5 0	52 19 0	6 0 0	46 19 0	Three "
90	"	Oct. 14	"	Finlay Campbell	Big and Little Soay	{ 2 - 8 149 1 32 }			1 0 0	1 0 0	2 6 6	2 6 6	...	Two "
91	"	"	"	Murdoch Macdonald	"	{ 2 - 8 149 1 32 }			1 0 0	1 0 0	2 6 6	2 6 6	...	Two "

APP. A (4)—COUNTY OF ROSS AND CROMARTY—CROFTING PARISHES OF APPECROSS AND GAIRLOCH.

1	Gairloch (Sir Kenneth S. Mackenzie, Bart. Proprietor)	1892 April 26	1893 Dec. 15	Murdoch Campbell	Portlair (Applecross)	8 - 23	27 - 14	800	10 0 0	10 0 0	10 0 0	10 0 0	...	Arrears payable in one Sum at Whitsunday 1894.
2	"	"	"	John Campbell	Upper Diabaig	10 - -	7 3 28	685	9 0 0	9 0 0	11 10 0	11 10 0	...	"
3	"	"	"	Roderick Macdonald	"	5 7 -	3 3 35		4 10 0	4 10 0	30 0 0	4 10 0	25 10 0	"
4	"	"	"	Finlay Macdonald	Craig (Gairloch)	3 1 26	6 1 26	800	5 5 0	4 0 0	40 12 4	8 0 0	32 12 4	Two Instalments of £4 each.
5	"	"	"	Duncan Maclean	"	3 1 26	6 1 26		5 5 0	4 0 0	25 0 0	8 0 0	17 0 0	"
6	"	"	"	Widow Kenneth Mac-	"	3 1 26	6 1 26		5 5 0	4 0 0	41 18 4	4 0 0	37 18 4	"
7	"	"	"	Widow Hectorina Tay-	Aird	11 1 18	4 - -	300	16 0 0	16 0 0	112 1 0	45 0 0	67 1 0	Four "

APP. A (4)—COUNTY OF ROSS AND CROMARTY (continued).—CROFTING PARISH OF APPLECROSS.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.		Fair Rent.	Total Amount.		Arrears.		Observations.
						Arable.	Outrun.	Common Pasture.		£ s. d.	£ s. d.		£ s. d.	£ s. d.	Ordered to be Paid.	Cancelled.	
8	Ben Damph. (The Earl of Lovelace, Proprietor)	1892 April 21	1893 Dec. 15	Alexander Mackenzie	Annat. (Applecross)	Ac. Ro. Po. 1 3 -	Ac. Ro. Po. - - -	Acres. 910	*	£ s. d. 4 0 0	£ s. d. 2 0 0	£ s. d. 2 0 0	£ s. d. ...	£ s. d. ...	£ s. d. ...	£ s. d. ...	
9	"	"	"	Finlay Maclean	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
10	"	"	"	Duncan Macdonald	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
11	"	"	"	Alexander Macdonald	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
12	"	"	"	William Mackenzie	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
13	"	"	"	Hector Maclean	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
14	"	"	"	Roderick Macbeath	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
15	"	"	"	Donald Mackenzie	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
16	"	"	"	Roderick Maclellan	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
17	"	"	"	Widow Annabella Maclellan or Maclean	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
18	"	"	"	Widow Flora Mackenzie or Maclean	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
19	"	"	"	Widow Ann Macgregor or M'Kenzie	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	
20	"	"	"	Widow Catherine Maclellan or Macdonald	"	1 3 -	- - -			4 0 0	2 0 0	2 0 0	...	...	...	...	

APP. A (5)—COUNTY OF SUTHERLAND—CROFTING PARISH OF KILDONAN.

1	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1892 Feb. 13	1893 Dec. 15	William Macpherson	Kinbrace	8 - -	12 - -	None		9 0 0	7 4 0	18 0 0	14 0 0	4 0 0	Arrears payable in three half- yearly instal- ments of £6, £5 & £4
2	"	1891 May 4	"	Widow Donald Sutherland	220 Naviedale	8 - 3	- - -	406		1 11 0	2 0 0	...	...	...	
3	"	"	"	Adam Mackenzie	202 "	4 2 1	2 - 31	(See page 37.)		2 0 0	1 14 0	2 0 0	1 0 0	1 0 0	One Sum at Whitesunday 1894.

* See Appendix G (c), page 98.

† See Appendix S (4), page 154.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Amounts.			Observations.
						Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.	
4	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 4	1893 Dec. 15	Christina Gilchrist	196 Naviedale	5 - 35	Ac. Ro. Po. 5 - 35	-	Acres. 408	£ s. d. 3 8 0	£ s. d. 2 7 0	£ s. d. 0 3 8 0	£ s. d. 1 6 0	£ s. d. 2 2 0	Arrears payable in one Sum at Whitsunday 1894.
5	"	"	"	Widow George Murray	207 "	5 - 32	- 1 21	-		2 15 0	2 5 0	2 15 0	1 15 0	1 0 0	One "
6	"	"	"	Widow Alexander Macleod	218 "	6 2 19	1 3 14	-		3 14 0	3 14 0	3 14 0	3 14 0	"	One "
7	"	"	"	Widow Alexander Sutherland	216 "	4 1 14	- 2 -	-		1 10 3	1 10 3	"	"	"	"
8	"	"	"	Widow John Munro	206 "	8 3 19	3 2 14	-		3 3 8	3 3 8	"	"	"	"
9	"	"	"	Widow Alexander Mackay	219 "	5 3 25	2 - 17	-		2 0 0	1 10 0	"	"	"	"
10	"	"	"	George Polson	194 "	6 3 7	- 21	-		3 15 0	3 0 0	"	"	"	"
11	"	"	"	Widow George Gordon.	198 "	5 1 16	- - -	-		2 0 0	1 14 0	2 0 0	1 8 0	0 12 0	One "
12	"	"	"	Margaret Sutherland	217 "	3 1 8	- 6	-		2 10 0	1 12 0	2 10 0	0 14 0	1 16 0	One "
13	"	"	"	Widow James Ross	213 "	4 1 1	- 5	-		2 0 0	2 0 0	2 0 0	2 0 0	"	One "
14	"	"	"	Robert Sutherland	215 "	3 2 38	- 9	-		2 19 0	2 8 0	2 19 0	1 17 0	1 2 0	One "
15	"	"	"	Alexander Polson	208 "	3 1 32	2 - 35	-		1 16 0	1 10 0	3 12 0	3 0 0	0 12 0	Two half-yearly Instalments of £2 & £1
16	"	"	"	James Ronaldson	212 "	4 - 33	- 20	-		3 0 0	2 5 0	"	"	"	"
17	"	"	"	Hugh Macpherson	195 "	9 1 4	- 18	-		2 0 0	2 10 0	"	"	"	"
18	"	"	"	William Macdonald	205 "	7 2 25	4 3 27	-		1 10 0	1 15 0	"	"	"	"
19	"	"	"	Angus Murray	214 "	4 2 28	2 1 36	-		3 10 0	2 0 0	5 0 0	"	5 0 0	"
20	"	"	"	William Sutherland	200 "	2 2 36	- 1 5	-		2 0 0	1 2 0	"	"	"	"
21	"	"	"	Widow George Gunn	199 "	6 3 26	1 3 33	-		2 8 3	2 2 0	"	"	"	"
22	"	"	"	Jessie Macdonald	211 "	1 - 32	- 1 8	-		0 15 0	0 15 0	"	"	"	"
23	"	"	"	Widow Roderick Chisholm	76 East Helmsdale	5 1 31	3 1 5	-		1 10 0	1 15 0	1 10 0	1 10 0	"	One Sum at Whitsunday 1894.
24	"	"	"	Alexander Macpherson	90 & 85 "	4 3 10	- - 30	-		2 10 0	2 5 0	"	"	"	Three half-yearly Instalments of £8 each.
25	"	"	"	Gordon Macintosh	91 & 303 "	10 3 5	- - -	-		9 10 0	6 0 0	34 2 6	24 0 0	10 2 6	"

406 acres common to 39 crofters in Naviedale, East Helmsdale, and Carnlaggie, all dealt with—the share of each being in proportion to his present rent.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
26	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 4	1898 Dec. 15	James Mitchell	95 Helmsdale	3 2 5	- - 13	406		2 2 0	1 12 0	5 2 0	3 4 0	1 13 0	Arrears payable in two half-yearly instalments of £1 4s. £2 & £1
27	"	"	"	Donald Grant	100 "	3 1 25	- - 37			2 10 0	1 10 0	2 10 0	...	2 10 0	Two "
28	"	"	"	George Ross	101 "	1 3 14	1 - -			1 10 0	1 0 0	4 10 0	3 0 0	1 10 0	"
29	"	"	"	Widow Mary Macintosh	89 "	1 1 22	- - 13			1 0 0	1 0 0	...	...	...	"
30	"	"	"	Donald Sutherland	103 "	- 3 28	- - 4			1 0 0	1 0 0	...	...	...	"
31	"	"	"	Charles Mackenzie	98 "	3 2 13	- - 28			2 15 0	2 4 0	...	...	...	"
32	"	"	"	William Sutherland	106 "	7 1 11	- - 139			2 5 0	2 5 0	...	...	...	"
33	"	"	"	Ellen Mitchell	94 "	- 3 16	- - 5			1 0 0	1 0 0	...	...	...	"
34	"	"	"	William Gunn	80 "	1 2 17	- - 7			1 5 0	1 0 0	1 5 0	0 15 0	0 10 0	One Sum at Whitsunday 1894.
35	"	"	"	Thomas Lowry	84 "	3 - 23	- - 11			2 0 0	1 12 0	...	...	...	"
36	"	"	"	Widow Robert Macpherson	92 "	1 2 17	- - 2			0 5 0	0 12 0	...	...	...	"
37	"	"	"	Robert Macpherson	104 "	3 - 8	- - -			1 10 0	1 0 0	4 10 0	3 0 0	1 10 0	Two half-yearly Instalments of £2 & £1
38	"	"	"	Grant Sutherland	88 "	2 1 8	- - 13			1 14 0	1 4 0	1 14 0	0 14 0	1 0 0	One Sum at Whitsunday 1894.
39	"	"	"	Widow Catherine Macleod	294 Carnlaggie	11 3 10	- 3 4			6 0 0	4 15 0	18 0 0	9 0 0	9 0 0	Three half-yearly Instalments of £3 each.
40	"	"	"	Angus Bruce	81 "	4 3 32	1 3 8			2 10 0	2 10 0	2 10 0	2 10 0	...	One Sum at Whitsunday 1894.
41	"	"	"	Hector Macleod	179 Marrel	4 1 21	- - 34			3 1 6	2 10 0	6 3 0	4 0 0	2 3 0	Two half-yearly Instalments of £2 each.
42	"	"	"	John Sutherland	177 "	5 1 13	- - 26			1 6 0	1 15 0	...	...	...	"
43	"	"	"	William Macleod	182 "	3 3 13	- 3 26			2 0 0	1 15 0	9 0 0	1 15 0	7 5 0	One Sum at Whitsunday 1894.
44	"	"	"	Widow William Polson	189 "	3 - 35	1 2 -			1 4 0	1 10 0	...	...	...	"
45	"	"	"	John Murray	188 "	2 1 35	1 3 11			2 10 0	1 14 0	...	...	...	"
46	"	"	"	Widow Margaret Macleod	186 "	3 1 12	- - 12			1 3 6	1 10 0	1 3 6	1 3 6	...	"
47	"	"	"	Hugh Macleod	180 "	5 2 7	- - 12			3 5 0	3 0 0	...	...	...	"

APP A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.		Arrears.		Observations.
						Arable.	Ac. Ro. Po.	Outrun.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	Ordered to be Paid.	Cancelled.	
48	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	1893 Dec. 15	Widow David Banner-man	172 Marrel	3 1 38	1 - 25	-	Acres, 2150	1 15 0	2 0 0	...	...	...	...	
49	"	"	"	Alexander Macpherson	175 "	2 - 24	-	-		2 0 0	1 10 0	6 0 0	4 0 0	2 0 0	2 0 0	Arrears payable in two half-yearly instalments of £2 each. One Sum at Whitsunday 1894.
50	"	"	"	Widow Donald Grant.	176 "	2 2 27	-	2		0 18 0	1 5 0	1 16 0	1 16 0	...	...	
51	"	"	"	Catherine Bannerman	171 "	3 - 3	-	-		1 11 0	1 6 0	...	...	...	...	
52	"	"	"	Murdoch Macleod	178 "	2 - 21	-	-		1 5 0	1 5 0	3 15 0	3 15 0	...	...	One " "
53	"	"	"	Widow David Banner-man and George Bannerman	173 & 191	5 3 37	-	-		4 5 0	3 6 0	...	...	...	...	One " "
54	"	"	"	James Palmer	192 "	2 2 38	-	3 20		2 0 0	2 0 0	2 0 0	2 0 0	...	...	One " "
55	"	"	"	Elizabeth Macleod	184 "	2 2 19	-	3 21		3 0 0	2 0 0	15 0 0	2 0 0	...	...	One " "
56	"	"	"	William Polson	187 "	2 3 27	-	-		1 10 0	1 10 0	12 15 0	6 0 0	6 15 0	2 10 6	Two half-yearly Instalments of £3 each. Two " "
57	"	"	"	Alexander Macleod	181 "	3 1 -	-	3 39		1 11 0	1 11 0	8 10 6	6 0 0	...	...	One Sum at Whitsunday 1894.
58	"	"	"	Daniel Sutherland	193 "	2 2 19	-	1 29		1 6 6	1 6 6	...	...	...	...	One Sum at Whitsunday 1894.
59	"	"	"	Widow Donald Bruce	174 "	4 2 3	1 - 22	-		1 6 6	2 2 0	1 6 6	1 6 6	1 10 0	1 10 0	One " "
60	"	"	"	Jessie Polson	185 "	3 3 21	-	1 27		1 10 0	1 10 0	3 0 0	1 10 0	...	...	Three half-yearly Instalments of £3, £3 & £2. One Sum at Whitsunday 1894.
61	"	"	"	Alexander Gunn	123 West Helmsdale	4 - 14	-	3 39		3 0 0	2 0 0	14 9 4	8 0 0	6 9 4	...	One " "
62	"	"	"	Alexander Bethune	120 "	2 2 12	-	30		1 5 0	1 5 0	1 5 0	1 5 0	...	...	Two half-yearly Instalments of £1 6s. 6d. each. Three " £6 "
63	"	"	"	William Bruce	137 "	3 1 33	-	22		2 6 0	2 0 0	2 6 0	1 0 0	1 6 0	...	Three " £2 10s. "
64	"	"	"	Catherine Macleod	152 "	4 - 25	-	18		1 6 6	1 6 6	2 13 0	2 13 0	...	...	Three " £2 10s. "
65	"	"	"	Donald Bannerman	111 & 344 "	7 3 9	-	37		4 4 11	3 10 0	21 4 7	18 0 0	3 4 7	...	
66	"	"	"	William Ross	160 "	4 - 13	-	34		2 10 0	2 0 0	13 10 0	7 10 0	...	...	
67	"	"	"	John Macdonald (Roy)	139 "	4 - 13	-	23		3 8 0	2 10 0	...	...	...	...	
68	"	"	"	Flora Murray	123 "	2 1 32	-	11		1 6 0	1 6 0	...	...	...	...	

2150 acres common to the townships of Marrel, West Helmsdale, Gartmore, and Portgower—148 holdings in all—of which 145 were dealt with. The share of each crofter is in proportion to his present rent. The shares effecting to the three holdings not dealt with are reserved to the landlord.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Ac. Ro. Po.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
69	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	1893 Dec. 15	James Sutherland	166 West-Helmsdale	3 3 8	- - 9	- - 9	Acres. 2150	3 6 6	2 5 0	9 19 6	3 0 0	6 19 6	Arrears payable in one Sum at Whitsunday 1894.
70	"	"	"	Colin Mackenzie.	108 "	3 3 17	- - 6	- - 6		3 5 0	2 8 0	3 5 0	1 5 0	2 0 0	One " " " "
71	"	"	"	Hugh Tulloch	157 "	2 3 19	- - 2	- - 2		2 2 0	2 2 0	...	...	...	
72	"	"	"	William Macleod	148&110 "	5 - 15	- - -	- - -		3 5 0	3 5 0	...	...	...	
73	"	"	"	Donald Sutherland	165&138 "	5 2 6	- - -	- - -		3 0 10	2 5 0	7 12 6	3 0 0	4 12 6	One " " " "
74	"	"	"	Widow John Ross	181 "	2 1 7	- - 28	- - 28		1 3 0	1 3 0	...	...	...	
75	"	"	"	John Macdonald	122 "	3 1 23	- - 2	- - 2		2 10 0	2 5 0	...	...	...	
76	"	"	"	Robert Gunn	354 "	2 2 6	- - 9	- - 9		1 7 6	1 2 0	6 17 6	5 0 0	1 17 6	Two half-yearly Instalments of £2 10s. each.
77	"	"	"	Widow David Bannerman	112, 150 & 42	6 1 28	- 1 5	- 1 5		5 0 0	3 10 0	...	...	...	
78	"	"	"	Widow Richard Young	153 "	1 2 19	- 2 13	- 2 13		0 19 6	0 19 6	0 19 6	0 19 6	...	One Sum at Whitsunday 1894.
79	"	"	"	Widow James Sutherland	168 "	4 2 35	- - -	- - -		0 15 0	1 0 0	...	...	...	
80	"	"	"	Widow Benjamin Tait	306 "	1 - 12	- - -	- - -		0 10 0	0 10 0	0 10 0	0 10 0	...	One " " " "
81	"	"	"	Peter Gordon	164 "	2 3 5	- - 10	- - 10		2 10 0	1 10 0	11 10 0	5 0 0	6 10 0	Two half-yearly Instalments of £2 10s. each.
82	"	"	"	Alexander Mackay (Roadman)	346 & 27 "	3 2 22	- 1 24	- 1 24		2 2 0	1 15 0	...	...	...	
83	"	"	"	Georgina Bannerman	116 & 117 "	3 - 5	- - 2	- - 2		2 0 0	1 12 0	2 0 0	1 0 0	1 0 0	One Sum at Whitsunday 1894.
84	"	"	"	Hugh Macleod	169 "	2 2 22	- - 5	- - 5		1 14 6	1 5 0	4 18 0	3 0 0	1 18 0	Two half-yearly Instalments of £1 10s. each.
85	"	"	"	Widow Donald Maclean	149 "	2 1 20	- - -	- - -		1 5 0	1 5 0	2 10 0	2 10 0	...	Two " £1 5s. "
86	"	"	"	Widow Peter Polson	138 "	4 1 39	- 2 29	- 2 29		1 17 6	2 5 0	1 17 6	1 17 6	...	One Sum at Whitsunday 1894.
87	"	"	"	*Jane Mackintosh.	144 "	2 - 13	- - 14	- - 14		0 14 0	1 0 0	...	...	...	
88	"	"	"	Alexander Mackay (Cooper)	134 "	2 - 3	- - 19	- - 19		1 15 0	1 10 0	3 18 9	3 0 0	0 18 9	Two half-yearly Instalments of £1 10s. each.
89	"	"	"	Alexander Mackenzie	142 "	2 1 24	- - -	- - -		1 7 6	1 0 0	1 7 6	...	1 7 6	

(See preceding page.)

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Common Pasture.	In Common Pasture.	Present Rent.		Fair Rent.		Total Amount.		Arrears.		Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
90	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	1893 Dec. 15	Isabella Bannerman (Big)	159 West Helmsdale	1 2 12	1 2 12	— — 26	— — —	— — —	1 2 6	1 2 6	1 2 6	1 2 6	2 5 0	2 5 0	— — —	— — —	Arrears payable in two half-yearly instalments of £1 2s. 6d. each.
91	"	"	"	Isabella Bannerman	109 "	1 2 39	1 2 39	— 2 23	— — —	— — —	1 0 0	1 0 0	1 0 0	1 0 0	1 0 0	1 0 0	— — —	— — —	One Sum at Whitsunday 1894.
92	"	"	"	William Sutherland	115 "	2 — 38	2 — 38	— — 31	— — —	— — —	2 0 0	2 0 0	1 5 0	1 5 0	14 0 0	10 0 0	4 0 0	4 0 0	Three half-yearly instalments of £4, £4 & £2
93	"	"	"	Peter Polson	147 & 349	4 1 8	4 1 8	— 3 36	— — —	— — —	1 15 8	2 0 0	2 0 0	2 0 0	— — —	— — —	— — —	— — —	One Sum at Whitsunday 1894.
94	"	"	"	Elizabeth Munro	158 "	2 3 12	2 3 12	— — —	— — —	— — —	2 2 0	2 2 0	1 6 0	1 6 0	4 4 0	1 16 0	2 8 0	2 8 0	One Sum at Whitsunday 1894.
95	"	"	"	Hugh Gunn	145 "	2 1 30	2 1 30	2 — —	— — —	— — —	2 0 0	2 0 0	1 10 0	1 10 0	4 0 0	2 10 0	1 10 0	1 10 0	Two half-yearly instalments of £1 10s. & £1
96	"	"	"	William Grant	170 "	2 — 21	2 — 21	— 3 7	— — —	— — —	1 4 0	1 4 0	1 0 0	1 0 0	2 8 0	1 10 0	0 18 0	0 18 0	One Sum at Whitsunday 1894.
97	"	"	"	Alexander Matheson	135 "	2 3 9	2 3 9	— 1 2	— — —	— — —	1 5 0	1 0 0	1 0 0	1 0 0	— — —	— — —	— — —	— — —	One "
98	"	"	"	Mrs Christina Rose	143 "	2 3 33	2 3 33	— 1 2	— — —	— — —	1 3 0	1 12 0	1 12 0	1 12 0	1 3 0	1 3 0	— — —	— — —	"
99	"	"	"	John Macintosh	146 "	3 — 5	3 — 5	— 1 25	— — —	— — —	0 15 6	1 10 0	1 10 0	1 10 0	0 15 6	0 15 6	— — —	— — —	"
100	"	"	"	Christina Mackay	141 "	3 3 4	3 3 4	— 1 19	— — —	— — —	1 10 0	2 0 0	2 0 0	2 0 0	— — —	— — —	— — —	— — —	"
101	"	"	"	Peter Gordon	345 & 12	3 — 11	3 — 11	— 1 3	— — —	— — —	2 0 0	1 16 0	1 16 0	1 16 0	— — —	— — —	— — —	— — —	"
102	"	"	"	Christina Fraser	124 & 352	4 — 24	4 — 24	— 1 19	— — —	— — —	2 10 0	2 0 0	2 0 0	2 0 0	2 10 0	1 10 0	1 10 0	1 10 0	One "
103	"	"	"	Alexander Murray	156 "	4 2 32	4 2 32	2 2 21	— — —	— — —	2 0 0	1 15 0	1 15 0	1 15 0	2 0 0	1 0 0	1 0 0	1 0 0	One "
104	"	"	"	Widow Hugh Gordon	126 "	4 2 21	4 2 21	— 1 30	— — —	— — —	1 10 0	2 6 0	2 6 0	2 6 0	— — —	— — —	— — —	— — —	One "
105	"	"	"	Widow George Bannerman	132 "	1 — 16	1 — 16	— 1 35	— — —	— — —	1 5 0	1 10 0	1 10 0	1 10 0	1 5 0	1 5 0	— — —	— — —	One "
106	"	"	"	Robert Findlay	163 & 162	6 1 12	6 1 12	— — 37	— — —	— — —	4 5 0	4 5 0	4 5 0	4 5 0	— — —	— — —	— — —	— — —	"
107	"	"	"	Gordon Henderson	130 & 119	5 2 24	5 2 24	— — 11	— — —	— — —	3 2 0	8 10 0	8 10 0	8 10 0	— — —	— — —	— — —	— — —	One "
108	"	"	"	Daniel Macleod	151 "	3 1 17	3 1 17	4 — 35	— — —	— — —	1 10 0	1 10 0	1 10 0	1 10 0	1 10 0	1 10 0	— — —	— — —	One "
109	"	"	"	Adam Macdonald (Cooper)	133 "	6 — 38	6 — 38	1 — 14	— — —	— — —	1 5 0	1 10 0	1 10 0	1 10 0	1 5 0	1 5 0	— — —	— — —	One "
110	"	"	"	Hugh Macleod (Surfaceman)	167 "	3 — 5	3 — 5	— 2 6	— — —	— — —	1 2 9	1 2 9	1 2 9	1 2 9	— — —	— — —	— — —	— — —	"

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APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.				Total Amount.	Ordered to be Paid.	Cancelled.	
						25 - 22	4 - 39	2150		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
111	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	1893 Dec. 15	Joseph Gordon Mackay	298 West Helmsdale					5 0 0	7 10 0	5 0 0	5 0 0	...	Arrears payable in one Sum at Whitsunday 1894.
112	"	"	"	Margaret Macdonald	25 & 331 Gartmore	5 - 15	3 1 16			2 10 0	2 0 0	2 10 0	1 0 0	1 10 0	One " "
113	"	"	"	Ann Bruce	39 "	3 3 30	4 1 6			1 0 0	1 0 0	...	...	...	" "
114	"	"	"	John Fraser	11 "	5 2 26	2 1 32			3 3 0	2 12 0	3 3 0	2 0 0	1 3 0	One " "
115	"	"	"	Widow John Murray	72 "	1 - 20	- 2 17			0 14 0	0 14 0	...	...	...	" "
116	"	"	"	Isabella Murray, senior	56 "	3 3 10	6 2 21			1 5 0	1 11 0	...	...	...	" "
117	"	"	"	Adam Gordon	14 "	2 1 -	2 3 11			0 15 0	1 10 0	2 5 0	2 5 0	...	Two half-yearly Instalments of £1 5s. & £1
118	"	"	"	Isabella Murray, junior	51 "	2 2 12	1 3 2			1 5 0	1 5 0	...	...	...	One Sum at Whitsunday 1894.
119	"	"	"	John Murray	65 & 378,	5 2 36	4 1 10			2 6 0	2 6 0	2 6 0	2 6 0	1 0 0	One " "
120	"	"	"	James Mackenzie	30 "	5 - 30	- - 21			2 10 0	2 0 0	2 10 0	1 0 0	1 10 0	" "
121	"	"	"	William Matheson	48 "	4 - 4	- - 9			1 2 0	1 15 0	...	...	...	" "
122	"	"	"	Charles Cuthbert	6 "	3 - 29	- 1 27			1 15 0	1 10 0	...	...	...	" "
123	"	"	"	Alexander Mackay	23 "	2 3 34	- - 18			1 10 0	1 10 0	1 10 0	1 10 0	...	One " "
124	"	"	"	Joan Benneman	2 & 379,	3 3 11	- 2 5			1 15 0	2 10 0	1 15 0	1 15 0	...	One " "
125	"	"	"	Alexander Gordon	26 "	1 1 23	- - 2			3 0 0	1 5 0	16 12 0	6 0 0	10 12 0	Three half-yearly Instalments of £2 each.
126	"	"	"	George Murray	53 "	3 - 22	- - 37			2 0 0	1 5 0	4 0 0	2 0 0	2 0 0	One Sum at Whitsunday 1894.
127	"	"	"	Widow James Sutherland	68 "	4 - 30	- 1 4			1 16 4	2 16 0	1 16 4	1 16 4	...	One " "
128	"	"	"	Widow John Matheson	46 "	4 2 30	- - 20			1 6 6	1 10 0	1 6 6	1 6 6	...	One " "
129	"	"	"	Widow Robert Mackay	22 "	2 3 9	- 1 27			1 0 0	1 0 0	1 0 0	1 0 0	...	One " "
130	"	"	"	Widow Elspeth Sutherland	63 "	12 3 9	- 3 38			4 0 6	4 0 6	...	...	...	" "
131	"	"	"	Isabella Gordon	13 "	3 - 30	5 1 22			2 0 0	1 12 0	6 0 0	1 12 0	4 8 0	One " "
132	"	"	"	Robert Murray	24 "	2 2 24	- - 15			1 12 6	1 12 6	1 12 6	1 12 6	...	One " "

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APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent.		Fair Rent.	Total Amount.	Arrears.		Observations.
						Arable.	Outrun.	Ac. Ro. Po.		£ s. d.	£ s. d.			Ordered to be Paid.	Cancelled.	
		1891 May 13	1893 Dec. 15			Ac. Ro. Po.	Ac. Ro. Po.		Acres.							
133	Sutherland . (His Grace the Duke of Sutherland, Proprietor)			Elizabeth Sutherland .	69 Gairymore	1 2 26	- - 27		2150	£ s. d. 1 6 0	£ s. d. 1 0 0	£ s. d. 1 6 0	£ s. d. 1 6 0	£ s. d. 0 10 0	£ s. d. 0 16 0	Arrears payable in one Sum at Whitsunday 1894.
134	"	"	"	Isabella Bruce .	19 "	3 3 39	- - 14			2 15 0	2 0 0	8 5 0	4 0 0	4 0 0	4 5 0	Two half-yearly Instalments of £2 each. One Sum at Whitsunday 1894.
135	"	"	"	William Sutherland .	73 "	3 - 2	- - 11			1 13 3	1 13 3	1 13 3	1 13 3	1 13 3	...	
136	"	"	"	John Macpherson .	66 & 60 "	5 - 8	- - 1			2 10 0	2 2 0	...	...	...	...	
137	"	"	"	Adam Macdonald .	67 "	- 3 17	- - 13			0 10 0	0 10 0	...	...	...	...	
138	"	"	"	William Matheson .	47 "	1 - 25	- - 10			0 10 0	1 0 0	0 10 0	0 10 0	0 10 0	...	One " "
139	"	"	"	Widow Margaret Matheson	43 "	2 2 2	- - 20			1 10 0	1 5 0	...	...	...	...	
140	"	"	"	William Macpherson .	45 "	2 - 38	- - 15			0 14 6	1 0 0	...	...	...	...	
141	"	"	"	Alexander Grant	15 "	4 3 8	- - 13			3 17 0	2 15 0	...	...	...	...	
142	"	"	"	Donald Watson .	38 "	6 2 20	1 - 37			4 0 0	5 0 0	12 0 0	12 0 0	12 0 0	...	Two half-yearly Instalments of £3 each.
143	"	"	"	Widow John Murray .	55 "	1 1 2	- - 6			0 17 2	1 5 0	...	...	...	...	
144	"	"	"	Simpson Mackenzie .	31 "	4 1 9	2 1 23			2 7 6	2 7 6	2 7 6	2 7 6	2 7 6	...	One Sum at Whitsunday 1894.
145	"	"	"	Elizabeth Mitchell .	32 "	1 - 24	2 - 24			1 5 0	1 5 0	1 5 0	1 5 0	1 5 0	...	One " "
146	"	"	"	Elizabeth Sutherland (Callan)	71 "	4 2 29	1 2 2			1 15 0	1 15 0	5 5 0	5 5 0	3 0 0	2 5 0	Two half-yearly Instalments of £1 10s. each.
147	"	"	"	Widow Hugh Macpherson	9 "	3 - 30	6 - 24			2 10 0	1 16 0	7 10 0	7 10 0	5 0 0	2 10 0	Two " , of £3 & £2
148	"	"	"	Widow John Sutherland	10 "	3 3 21	- - -			2 0 0	2 0 0	...	...	...	...	
149	"	"	"	Alexander Matheson (Cooper)	41 "	2 1 10	- - 13			1 9 3	1 4 0	1 9 3	1 9 3	1 0 0	0 9 3	One Sum at Whitsunday 1894.
150	"	"	"	Johan Polson .	57 "	2 3 35	- - 15			3 0 0	2 0 0	...	...	...	...	
151	"	"	"	Hughina Sutherland .	59 "	2 1 25	- 2 8			2 0 0	1 6 0	2 0 0	2 0 0	0 15 0	1 5 0	One " "
152	"	"	"	William Matheson (Dyker)	44 "	3 1 4	- - -			2 5 0	1 15 0	2 5 0	2 5 0	1 0 0	1 5 0	One " "
153	"	"	"	Widow John Cruickshanks	49 "	11 - 37	- 2 4			8 0 0	8 0 0	3 0 0	3 0 0	8 0 0	...	One " "

(See page 38.)

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF KILDONAN.

No.	Estate	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.		Common Pasture.	Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.	Arrears.		Observations.
						Arable.	Outrun.						Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
154	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	1898 Dec. 15	Flora Macpherson	37 Gartmore	3 - 11	- - 21	2150		2 19 6	2 0 0	2 19 6	1 0 0	1 19 6	Arrears payable in one Sum at Whitsunday 1894.
155	"	"	"	Isabella Macleod.	33	3 1 26	1 - 6			4 16 0	4 4 0	4 16 0	3 10 0	1 6 0	Two half-yearly Instalments of £2 & £1 10s.
156	"	"	"	Widow John Macleod.	34	3 - 20	- - 36			1 1 0	1 1 0	5 5 0	5 5 0	..	One Sum at Whitsunday 1894.
157	"	"	"	Margaret Munro.	1	2 2 28	- - 11			1 10 0	1 10 0	3 0 0	1 10 0	1 10 0	One " "
158	"	"	"	John Gunn.	18	4 - 15	2 - 18			0 8 11	1 5 0	...	...	...	" "
159	"	"	"	John Fraser (Mason)	17	4 2 38	- - -			3 0 0	2 2 0	6 0 0	4 0 0	2 0 0	Two half-yearly Instalments of £2 each.
160	"	"	"	Thomas Gordon.	35	5 2 2	2 - 33			3 12 6	2 13 0	3 12 6	1 10 0	2 2 6	One Sum at Whitsunday 1894.
161	"	"	"	Widow Colin Sutherland	64	2 - 30	- 2 1			0 14 6	1 0 0	0 14 6	0 14 6	...	One " "
162	"	"	"	Robert Forbes	7	2 2 7	- 3 18			1 10 0	1 3 0	3 0 0	2 0 0	1 0 0	Two half-yearly Instalments of £1 each.
163	"	"	"	John and Betsy Sutherland	61	4 1 20	1 3 34			2 0 0	1 14 0	6 0 0	4 0 0	2 0 0	Two " £2 "
164	"	"	"	John Macpherson, jun.	62	5 1 3	4 1 14			2 0 0	2 0 0	2 0 0	2 0 0	...	One Sum at Whitsunday 1894.
165	"	"	"	William Mackay (Salmon Fisher)	46 Portgower	2 - 1	1 2 35			1 12 0	1 0 0	4 16 0	3 0 0	1 16 0	Two half-yearly Instalments of £1 10s. each.
166	"	"	"	Charlotte Gray	34	1 3 35	- - -			1 5 0	1 0 0	1 5 0	0 15 0	0 10 0	One Sum at Whitsunday 1894.
167	"	"	"	Alexander Ross	50	2 3 34	- - -			2 10 0	1 14 0	2 10 0	1 0 0	1 10 0	One " "
168	"	"	"	Janet Bruce	43	1 3 10	- 3 17			1 0 9	1 0 9	...	...	...	" "
169	"	"	"	Hugh Bannerman	35	2 2 16	- - 23			1 10 0	1 14 0	...	...	...	" "
170	"	"	"	Widow Margaret Bannerman	58	2 2 9	- 12			1 10 0	1 0 0	...	...	...	" "
171	"	"	"	Widow Robert Macdonald	40	2 2 2	- - 1			1 5 0	1 5 0	2 10 0	1 5 0	1 5 0	One " "
172	"	"	"	Betsy Bruce	27	4 - 30	- 2 3			2 10 0	2 2 0	2 10 0	1 10 0	1 0 0	One " "
173	"	"	"	Hugh Sutherland (Tailor)	37	2 1 18	- 7 15			1 10 9	1 5 0	1 10 9	1 0 0	0 10 9	One " "

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APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISHES OF KILDONAN AND LOTH.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
					Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
174	Sutherland, (His Grace the Duke of Sutherland, Proprietor)	1891 May 13	John Thompson Murray	38 & 25 Portgower	2 3 1	— 8 36	2150		3 1 0	1 15 0	6 0 0	3 0 0	3 0 0	Arrears payable in one Sum at Whitsunday 1894.
175	"	"	William Sutherland	45, 84, & 53	4 2 15	— 1			3 1 0	2 15 0	...	...	...	
176	"	"	Widow Hector Bruce	36	1 3 3	— 14			1 15 0	1 4 0	1 15 0	0 15 0	1 0 0	One
177	"	"	George Murray	49	4 — 38	—			3 5 0	2 5 0	7 5 0	2 5 0	5 0 0	One
178	"	"	Widow William Gilchrist	38	3 1 38	—			2 10 9	2 0 0	2 10 9	1 10 0	1 0 9	One
179	"	"	Donald Bruce	26	2 2 11	— 4			1 11 0	1 5 0	1 11 0	1 0 0	0 11 0	One
180	"	"	George Miller	51	3 2 4	— 1			1 12 0	1 12 0	1 12 0	1 12 0	...	One
181	"	"	Samuel Mackenzie	39	3 — 35	—			2 0 0	2 0 0	...	...	...	One
182	"	"	John Chisholm	54	2 — 37	— 1			1 15 0	1 15 0	1 15 0	1 15 0	...	One
183	"	"	Widow John Matheson	26	3 — 19	— 31			1 5 0	1 5 0	1 5 0	1 5 0	...	One
184	"	"	Widow George Murray	47	3 1 13	—			2 0 0	0 0	2 0 0	2 0 0	...	One
185	"	"	Hugh Melville	56	1 3 2	—			1 8 0	1 16 0	1 8 0	1 8 0	...	One
186	"	1893 Oct. 16	Donald Munro	57 Culgower (Loth)	5 1 34	— 34	116		5 16 0	4 4 0	18 16 0	4 4 0	14 12 0	Two half-yearly Instalments of £2 2s. each.
187	"	"	David Ross	16	4 3 33	1 — 29			5 14 0	5 5 0	5 14 0	5 5 0	0 9 0	One Sum at Whitsunday 1894.
188	"	"	John Sutherland (Baigrie)	18	6 — 24	—			2 5 0	2 15 0	...	...	...	
189	"	"	William Polson	15	2 — 14	— 16			2 0 0	1 4 0	...	...	...	
190	"	"	Donald Macleod	13	2 1 8	— 7			1 10 0	1 4 0	3 0 0	2 8 0	0 12 0	Two half-yearly Instalments of £1 4s. each.
191	"	"	James Mackay	12	1 1 22	3 2 39			1 0 0	1 0 0	1 0 0	1 0 0	...	One Sum at Whitsunday 1894.
192	"	"	Robert Campbell	17	3 3 32	— 5			3 0 0	2 0 0	9 0 0	4 0 0	5 0 0	Two half-yearly Instalments of £2 each.
193	"	"	John Sutherland	14	1 — 39	7 — 34			1 1 0	1 1 0	1 1 0	1 1 0	...	One Sum at Whitsunday 1894.
194	"	"	Widow George Mackay	4 Craokaig	2 — 19	— 11	190		1 10 0	1 10 0	1 10 0	1 10 0	...	One

Common to eight crofters and the tenant of the farm of Culgower, each having an equal share.

(See page 39.)

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres. 1850 & 1900		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
217	Sutherland (His Grace the Duke of Sutherland, Proprietor).	1891 April 16	1893 Dec. 15	William Campbell	20 Ardschoy	9 3 22	— — —	— — —		£ s. d. 4 2 6	£ s. d. 4 10 0	£ s. d. 4 2 6	£ s. d. 4 2 6	£ s. d. ...	Arrears payable in one Sum at Whitsunday 1894.
218	"	"	"	Margaret Mackay	23 "	14 - 17	2 - 13			6 0 0	6 0 0	10 15 0	6 0 0	4 15 0	Two half-yearly Instalments of £3 each. Two " £2 2s. "
219	"	"	"	John Mackay	21 "	16 2 22	15 1 11			6 4 0	6 4 0	6 4 0	6 4 0	...	
220	"	"	"	Angus Munro	19 Achyreal	4 - 24	1 2 27			1 17 9	1 17 9	...	...	...	
221	"	"	"	Alexander Fraser	14 "	13 1 22	6 1 12			7 6 6	7 6 6	7 6 6	7 6 6	...	One Sum at Whitsunday 1894.
222	"	"	"	William Mackay	16 "	8 - 3	1 3 27			4 15 0	4 8 0	4 15 0	3 10 0	1 5 0	One " "
223	"	"	"	James Mackay	15 "	13 - 10	2 1 9			8 0 0	8 0 0	8 11 0	7 0 0	1 11 0	One " "
224	"	"	"	Alexander Bain	18 "	8 1 17	11 1 24			7 3 6	5 8 0	39 12 9	15 0 0	24 12 9	Three half-yearly Instalments of £5 each. One Sum at Whitsunday 1894.
225	"	"	"	Rev. Alex. Mackenzie	Dalhambreac	2 1 7	- 1 26			4 3 6	4 3 6	3 0 0	3 0 0	...	One " "
226	"	"	"	Widow William Munro	218 Rossal	4 1 18	2 3 39			1 7 9	1 15 0	1 7 9	0 10 0	0 17 9	One " "
227	"	"	"	James Vass	217 & 220 "	11 - -	- - -			5 9 6	5 5 0	5 9 6	4 10 0	0 19 6	One " "
228	"	"	"	Widow William Hamilton	219 "	8 2 10	5 2 4			6 13 6	6 0 0	6 13 6	4 10 0	2 3 6	One " "
229	"	"	"	Alexander Mackay	221 "	22 3 12	8 2 5			18 0 0	18 0 0	21 0 0	21 0 0	...	Two half-yearly Instalments of £10 10s. each. One Sum at Whitsunday 1894.
230	"	"	"	Robert Innes and Margaret Leslie	82 & 76 Inchcape	11 2 39	2 - 14			7 13 9	7 0 0	7 13 9	5 10 0	2 3 9	Three half-yearly Instalments of £4 each. One Sum at Whitsunday 1894.
231	"	"	"	Neil Mackay	83 & 79 "	15 3 20	6 1 12			10 16 9	8 17 0	21 13 6	12 0 0	9 13 6	One " "
232	"	"	"	Widow Neil Sutherland	86 "	10 - 9	3 2 20			5 1 9	4 13 0	5 1 9	3 10 0	1 11 9	One " "
233	"	"	"	Marion Mackay (Paul)	84 "	1 2 29	- - 14			1 0 0	1 0 0	1 0 0	1 0 0	...	One " "
234	"	"	"	Neil Davidson	74 "	8 - 21	- 2 3			4 19 9	4 7 0	4 19 9	3 0 0	1 19 9	One " "
235	"	"	"	Alexander Davidson	73 "	3 2 31	- 2 29			0 15 0	0 15 0	0 15 0	0 15 0	...	One " "
236	"	"	"	Daniel C. Clark	81 "	3 - 33	2 1 28			1 15 0	1 15 0	6 18 9	4 0 0	2 18 9	Two half-yearly Instalments of £2 each. Two " £2 5s. "
237	"	"	"	William Mackay	77 "	4 1 39	2 3 10			3 0 0	2 10 0	6 0 0	4 10 0	1 10 0	One " "
238	"	"	"	Christina Gordon	91 Inchoraig.	13 2 14	7 2 6			6 0 0	6 0 0	...	...	...	

* Has no share in 1900 acres.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
						Ac. Ro. Po.	Ac. Ro. Po.	Acres. 1650 & 1900		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
239	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 Apr. 16	1893 Dec. 15	Widow Julia Murray *	68 & 65 Dalmore	5 - 84	1 1 37	1650 & 1900		2 18 0	2 18 0	8 14 0	5 0 0	3 14 0	Arrears payable in two half-yearly instalments of £2 10s. each.
240	"	"	"	Hugh Ross . . .	69 "	7 1 -	- 3 38	(See preceding page.)		2 14 4	3 10 0	2 14 4	2 14 4	...	One Sum at Whitsunday 1894.
241	"	"	"	Widow James Campbell	61 "	5 2 11	- 2 18			3 0 9	4 4 0	...	...	...	One "
242	"	"	"	Colin Grant *	63 "	11 - -	1 1 17			4 11 1	6 0 0	4 11 1	4 11 1	...	Two half-yearly Instalments of £4 4s. each. One Sum at Whitsunday 1894.
243	"	"	"	Andrew Mackay *	62 "	7 3 11	- 2 19			4 4 0	4 10 0	8 8 0	8 8 0	...	Two half-yearly Instalments of £3 each. One Sum at Whitsunday 1894.
244	"	"	"	William Macintosh	244 & 176 Muie	7 3 22	9 3 8	380		5 0 0	5 10 0	5 0 0	5 0 0	...	Two half-yearly Instalments of £3 each. One Sum at Whitsunday 1894.
245	"	"	"	John Murray	186 "	6 1 26	5 3 21			4 10 0	3 10 0	11 5 0	6 0 0	5 5 0	Three "
246	"	"	"	John Sutherland.	192 "	9 1 6	6 2 5			5 0 0	4 12 0	15 10 0	8 0 0	7 10 0	One Sum at Whitsunday 1894.
247	"	"	"	Neil Mackay	182 "	9 3 19	9 3 15			6 0 0	6 0 0	3 0 0	3 0 0	...	Three half-yearly Instalments of £3, £3 & £2 Three "
248	"	"	"	John Campbell	184 "	5 3 28	15 - -			4 5 0	4 0 0	10 15 0	8 0 0	2 15 0	One Sum at Whitsunday 1894.
249	"	"	"	Widow Helen Mackay.	172 "	6 3 20	18 1 -			6 10 0	6 10 0	23 10 0	15 0 0	7 10 0	Three half-yearly Instalments of £2 10s., £2 & £1 Two "
250	"	"	"	Widow Christina Mackay	191 "	7 2 39	- - -			3 15 0	3 15 0	...	...	...	One Sum at Whitsunday 1894.
251	"	"	"	Donald Murray	178 & 187 "	10 - 25	- 3 -			6 0 0	6 6 0	6 0 0	6 0 0	...	Three half-yearly Instalments of £2 10s., £2 & £1 Two "
252	"	"	"	Duncan Gordon	169 "	5 2 33	- 3 6			3 8 0	3 12 0	6 16 0	6 16 0	...	One Sum at Whitsunday 1894.
253	"	"	"	Widow Ann Mackay or Robertson	179 "	4 - 15	- 1 9			2 14 0	2 0 0	5 8 0	3 0 0	2 8 0	Two "
254	"	"	"	Alexander Mackay	263 "	1 3 33	- - 30			0 10 0	0 10 0	...	...	...	Two "
255	"	"	"	William Mackay	180 "	6 2 14	1 2 38			3 17 3	3 10 0	7 14 6	6 10 0	1 4 6	Two "
256	"	"	"	John Mackay	173 "	7 - -	5 2 21			4 14 0	5 10 0	...	...	...	Two "
257	"	"	"	Peter Macintosh	174 "	12 3 17	1 - 18			5 12 0	6 4 0	5 12 0	5 12 0	...	One Sum at Whitsunday 1894.
258	"	"	"	Alexander Macleod	185 "	7 1 6	4 - 23			4 0 0	4 0 0	4 0 0	4 0 0	...	One "
259	"	"	"	Robert Mackay	188 "	4 3 28	3 2 19			3 10 0	2 10 0	3 10 0	1 10 0	2 0 0	One "
260	"	"	"	Duncan Campbell	177 "	5 1 30	- - 20			2 12 0	2 12 0	2 12 0	2 12 0	...	One "

* Has no share in 1900 acres.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
					Arable.	Outrun.	Common Pasture.				Total Amount.	Ordered to be Paid.	Cancelled.	
					Ac. Ro. Po.	Ac. Ro. Po.	Acres		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
261	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 Apr. 16	Hugh Murray	49 B'rich	17 3 8	5 3 28	None.	None.	8 0 0	8 8 0	8 0 0	8 0 0	...	Arrears payable in two half-yearly Instalments of £4 each.
262	"	" 28	Robert Sutherland	283 Ach-na-luchrach	20 - 24	315 2 2	"	"	28 0 0	25 0 0	56 0 0	45 0 0	11 0 0	Three " £20, £15 & £10
263	"	" 20	Jane Murray	133 West Langwell	5 3 33	- 1 36	380	"	1 9 3	2 0 0	1 9 3	1 9 3	...	One Sum at Whitsunday 1894.
264	"	"	Bella Mackay	124 "	5 3 28	2 1 18	Divided in 11 shares	"	3 0 0	2 10 0	9 0 0	6 0 0	3 0 0	Three half-yearly Instalments of £2 each.
265	"	"	John Morrison	141 "	8 2 39	29 2 31	Divided in 11 shares	"	2 5 0	3 0 0	2 5 0	2 5 0	...	One Sum at Whitsunday 1894.
266	"	"	Hugh Murray *	134 & 121,	13 - 8	12 1 17	866 & 560	"	9 15 0†	10 0 0	34 15 0	25 0 0	9 15 0	Three half-yearly Instalments of £10, £10 & £5
267	"	"	Donald Leslie	128 "	9 1 11	3 1 10	866 acres Old pasture in portion to old rent, and 560	"	4 2 10†	6 6 0	...	...	...	
268	"	"	William Leslie	12 "	4 3 13	7 - 27	acres New pasture, divided into 6 shares, all dealt with.	"	2 5 2†	4 6 0	4 10 4	4 10 4	...	Two " £2 10s. 4d. & £2
269	"	"	Widow Alexandrina Polson or Mackay	"	7 - 15	17 - 6	"	"	3 9 10†	6 0 0	12 4 2	12 4 2	...	Three " £4 4s. 2d., £4 & £4
270	"	"	John Murray	19 "	8 1 15	42 2 20	"	"	6 10 0†	8 7 0	6 10 0	6 10 0	...	One Sum at Whitsunday 1894.
271	"	"	William Matheson	132 "	12 - 22	21 - 27	"	"	10 0 0†	11 0 0	17 10 0	14 0 0	3 10 0	Two half-yearly Instalments of £7 each.
272	"	"	Donald Macdonald†	137 East Langwell	11 3 7	20 1 24	1323 345	"	8 0 0†	7 10 0	8 0 0	6 10 0	1 10 0	One Sum at Whitsunday 1894.
273	"	"	Murdoch Mackay	126 "	12 3 9	47 3 -	1323 acres old pasture divided into 7 shares	"	7 5 0†	9 15 0	7 5 0	7 5 0	...	One " "
274	"	"	Alexander Sutherland.	142 "	14 2 31	26 1 7	proportionate to old rent.	"	8 14 0†	10 14 0	8 14 0	7 10 0	1 4 0	One " "
275	"	"	Alexander Mackay	135 "	6 - 8	6 - 39	345 acres new pasture divided into 6 equal shares.	"	5 0 0†	7 0 0	...	...	...	"
276	"	"	James Mackay	125 "	11 - 24	55 3 14	"	"	10 0 0†	12 10 0	...	...	...	"
277	"	"	George Murray	Ach-na-caillich	27 3 30	- - -	"	"	8 3 0†	12 10 0	8 3 0	8 3 0	...	One " "
278	"	" 24	Neil Mackay	161 Rhian-doggie	7 3 2	- 3 29	118	divided into 4 shares—all dealt with.	5 0 0	5 0 0	...	...	...	"
279	"	"	William Mackenzie	166 Morness	9 2 28	1 3 21	"	"	5 5 0	4 0 0	6 10 0	3 10 0	3 0 0	One " "
280	"	"	Kenneth Mackay	157 "	9 3 15	1 - 25	"	"	5 5 0	3 16 0	5 5 0	2 0 0	3 5 0	One " "

* Hugh Murray has also share along with Jane Murray and 2 others in said common pasture of 380 acres.

† Has no share in 345 acres pasture.

§ Right to graze 40 sheep on new pasture of 560 acres reserved to William Macpherson, Grumby.

‡ Exclusive of rent of new pasture.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.		Common Pasture.	Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.		Ordered to be Paid.	Cancelled.	Observations.
						Arable.	Ac. Ro. Po.			£ s. d.	£ s. d.	£ s. d.	£ s. d.			
281	Sutherland (His Grace the Duke of Sutherland, Proprietor).	1891 Apr. 24	1893 Dec. 15	Charlotte Bruce.	155 Morness.	13 3 23	9 3 20	118		6 0 0	5 15 0	6 0 0	6 0 0	5 0 0	1 0 0	Arrears payable in one Sum at Whitsunday 1894.
282	"	"	"	James Joseph Mackenzie	156 "	9 1 18	10 3 31	191	(See preceding page.)	4 16 0	3 13 0	...	...	...	...	"
283	"	"	"	William Waugh.	160 "	11 3 17	2 1 16			5 0 0	4 0 0	5 0 0	5 0 0	3 0 0	2 0 0	"
284	"	"	"	Angus Murray.	164 & 165 "	6 3 34	- - -			3 0 0	3 10 0	3 0 0	3 0 0	3 0 0	...	"
285	"	"	"	Widow Margaret Murray or Sutherland	164 Breacachadh	6 2 24	7 1 27			1 5 0	2 0 0	...	...	...	...	"
286	"	"	"	Ann Macintosh.	167 "	13 1 -	5 1 28			5 8 0	4 6 0	2 8 0	2 8 0	...	2 8 0	"
287	"	"	"	John Mackay.	162 "	16 2 7	1 2 32	Divided into 6 shares		2 15 0	3 8 0	2 15 0	2 15 0	2 15 0	...	"
288	"	"	"	Angus Mackay.	158 "	3 2 18	4 - 39	None.		1 0 0	1 8 0	...	...	...	...	"
289	"	"	"	Donald Mackay.	150 Little Rogart	8 - 12	- - 2	86		4 10 0	4 10 0	4 10 0	4 10 0	4 10 0	...	"
290	"	"	"	Widow Ann Mackay.	153 "	6 3 7	- - 31			4 0 0	4 0 0	9 0 0	9 0 0	4 0 0	5 0 0	Two half-yearly Installments of £2 each.
291	"	"	"	Alexander Mackenzie.	149 "	5 2 2	1 - 27	Divided into 7 shares		4 14 0	4 5 0	...	...	...	...	"
292	"	"	"	James Murray.	250 "	5 - 27	- 1 29			3 13 0	3 13 0	...	...	...	...	"
293	"	"	"	William Murray.	152 "	6 3 2	- 1 20			3 5 0	3 5 0	19 10 0	19 10 0	10 0 0	9 10 0	Three half-yearly Installments of £4, £4 & £2
294	"	"	"	Hugh Mackenzie.	146 "	6 2 36	- 3 11			3 10 0	3 10 0	5 0 0	5 0 0	5 0 0	...	"
295	"	"	"	Widow Elspeth Mackenzie or Sutherland	151 "	5 3 23	2 2 34	Divided into 7 shares		3 14 0	3 14 0	5 8 0	5 8 0	3 0 0	2 8 0	"
296	"	"	"	Widow Ann Ross or Mackay	208 Pitfour	4 1 16	25 2 29	None.		1 10 0	1 10 0	9 0 0	9 0 0	1 10 0	7 10 0	One Sum at Whitsunday 1894.
297	"	"	"	John Mackay.	207 & 148 "	14 1 24	47 - 38	None.		4 8 6	4 8 6	13 2 6	13 2 6	9 0 0	4 2 6	Three half-yearly Installments of £3 each.
298	"	"	"	Widow Elspeth or Mackenzie	233 Torbreck	8 3 32	2 - 25	186	Divided into 3 shares	4 10 0	4 15 0	2 0 0	2 0 0	2 0 0	...	One Sum at Whitsunday 1894.
299	"	"	"	Sarah Mackenzie.	236 "	8 - 3	- - 27			4 0 0	4 10 0	4 0 0	4 0 0	4 0 0	...	"
300	"	"	"	Angus Mackenzie.	232 "	4 3 15	20 - 27	Divided into 3 shares		5 10 0	5 0 0	2 10 0	2 10 0	1 10 0	1 0 0	"

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			In Common Pasture.	Present Rent. £ s. d.	Fair Rent. £ s. d.	Total Amount. £ s. d.	Arrears.		Cancelled.	Observations.
						Arable.	Ac. Ro. Po.	Outrun.					Ordered to be Paid. £ s. d.	£ s. d.		
301	Sutherland (His Grace the Duke of Sutherland, Proprietor).	1891 Apr. 24	1893 Dec. 15	Andrew Mackay.	203 Pittentail	11 3 31	Ac. Ro. Po. 3 2 6	Acres. 300		£ s. d. 5 4 0	£ s. d. 6 10 0	£ s. d. ...	£ s. d. ...			
302	"	"	"	Alexander Macpherson	198 "	14 2 20	2 1 39	Divided into 7 shares— all dealt with—two in 1887.		7 0 0	7 0 0	3 0 0	3 0 0			Arrears payable in one Sum at Whitsunday 1894.
303	"	"	"	Alexander Murray	199 "	1 1 24	- 2 8			1 0 0	1 10 0	1 0 0	1 0 0			One "
304	"	"	"	Widow Barbara Gordon or Munro	201 "	5 3 39	3 3 26			3 18 0	3 18 0	7 16 0	5 0 0			Two half-yearly Instalments of £2 10s each.
305	"	"	"	Andrew Sutherland	211 Reidlin	13 2 20	5 1 31			5 12 0	6 0 0	8 4 0	8 4 0			Two " £4 4s. & £4
306	"	"	"	Peter Mackenzie.	143 & 145 Reid-chalmie	17 2 3	88 - 25	None.		11 10 0	10 5 0	11 10 0	10 0 0			One Sum at Whitsunday 1894.
307	"	"	"	Catherine Matheson	37 Bank	9 1 27	1 3 12	158 & 260		5 6 5	5 6 5	10 12 10	10 12 10			Two half-yearly Instalments of £5 6s. 5d. each.
308	"	"	"	Donald Sutherland	35 "	11 1 5	37 2 35			10 1 7	9 5 0	10 1 7	8 10 0			One Sum at Whitsunday 1894.
309	"	"	"	John Henderson.	34 "	1 1 12	- - -			1 8 0	1 8 0	1 8 0	1 8 0			One "
310	"	"	"	John Matheson	272 Rhinussaig	1 1 1	- 24			1 4 0	1 8 0	...	...			"
311	"	"	"	James and Andrew Macdonald	269 "	1 3 2	- - -			1 4 0	1 8 0	...	...			"
312	"	"	"	Hugh Grant	267 & 154,	8 - 16	19 - 30			6 13 0	6 13 0	...	...			"
313	"	"	"	Widow Janet Macintosh or Macdonald	274 "	6 2 -	- 3 25			4 6 0	4 6 0	4 6 0	4 6 0			One "
314	"	"	"	Widow Catherine Grant or Murray	266 "	9 2 18	4 2 15			2 18 9	3 17 0	2 18 9	2 18 9			One "
315	"	"	"	James Murray	275 "	6 2 38	2 3 11			2 19 10	3 16 0	...	...			"
316	"	"	"	William Macdonald	268 "	6 1 23	1 - 34			4 4 0	3 15 0	...	...			"
317	"	"	"	John Ross	195 Kinnauld	5 - 19	- - 14			4 8 0	5 0 0	...	...			"
318	"	" 27	"	Widow Jessie Murray or Fraser	70 Dalreavoch	13 - 18	6 - 17	158 acres old pasture divided into 12 equal shares, proportionate to old rent, 260 acres new pasture divided into 12 equal shares.		7 11 0	9 4 0	7 11 0	7 11 0			One "
319	"	"	"	John Sutherland.	228 Tannachy	9 3 35	2 - 16			6 14 0	6 2 0	6 14 0	5 0 0			One "
320	"	"	"	Christina and Margaret Mackay	225 "	6 1 26	- 1 17	Divided into 6 shares— all dealt with— one in 1887.		6 3 0	5 12 0	6 3 0	5 0 0			One "

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGAET.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.			Fair Rent.	Total Amount.		Arrears.		Observations.
						Arable.	Ac. Ro. Po.	Outrun.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Ordered to be Paid.	Cancelled.	
321	Sutherland (His Grace the Duke of Sutherland, Proprietor).	1891 Apr. 27	1893 Dec. 15	Marion Sutherland	223 Tannachy	6 1 3	2 - 27		Acres. 133 & 553	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.			Arrears payable in one Sum at Whitsunday 1894.
322	"	"	"	Donald Calder	226 "	9 - 23	- 2 36		See preceding page.	5 10 0	6 0 0	16 10 0	16 10 0	5 0 0	...			Three half-yearly Instalments of £5 10s. each.
323	"	" 24	"	Widow Ann Macpherson or Ross	55 Craggiemore	6 1 13	79. 2 20		415	10 0 0	10 0 0	20 0 0	20 0 0	20 0 0	...			Two " £10 each.
324	"	"	"	John William Munro	54 Craggiebeg	5 1 24	14 1 29		Dealt with—one in 1887.	3 4 0	3 4 0	...	...	...	...			Two " £5 8s. each.
325	"	"	"	Christina Mackenzie	52 "	9 3 6	7 1 9*			5 8 0	5 8 0	10 16 0	10 16 0	10 16 0	...			One Sum at Whitsunday 1894.
326	"	"	"	Janet Mackay	51 "	8 2 39	- 3 324			3 0 0	2 6 0	3 0 0	3 0 0	2 0 0	1 0 0			One " "
327	"	"	"	John Gordon	50 "	5 1 3	- - 214			3 5 0	3 0 0	3 5 0	3 5 0	2 10 0	0 15 0			One " "
328	"	"	"	John Reed	53 "	8 - 34	3 2 34		Divided into 9 shares—all dealt with—one in 1887.	4 1 4	4 5 0	4 1 4	4 1 4	4 1 4	...			One " "
329	"	"	"	Alexander Matheson	39 Banskoll	6 2 15	11 1 25			4 3 9	4 3 9	4 3 9	4 3 9	4 3 9	...			On " "
330	"	"	"	William Mackay	112 Blackburn	8 - -	2 - 2			2 2 0	2 2 0	2 2 0	2 2 0	2 2 0	...			One " "
331	"	" 27	"	James Sutherland	118 Reidlochan	5 2 7	19 2 5		716	2 14 0	2 14 0	5 8 0	5 8 0	5 8 0	...			Two half-yearly Instalments of £2 14s. each.
332	"	"	"	Hugh Ross	213 "	7 3 37	19 1 16			3 13 0	3 13 0	15 10 0	15 10 0	10 0 0	5 10 0			Three " £4, £3 & £3
333	"	"	"	Alexander and Mary Gordon	212 "	13 3 19	12 1 25		11 dealt with.	6 9 0	6 9 0	14 14 0	14 14 0	10 0 0	4 14 0			Three " £4, £3 & £3
334	"	"	"	William Mackay	214 "	15 - -	17 - 9			10 12 0	8 0 0	32 12 0	32 12 0	20 0 0	12 12 0			Three " £8, £6 & £6
335	"	"	"	Dugald Watson	101 Knockarthur	6 1 8	6 - 11			4 16 7	3 8 0	4 6 7	4 6 7	...	4 6 7			Two " £5 & £4 10s.
336	"	"	"	Robert Murray	110 "	9 1 32	1 1 12			6 5 0	5 5 0	9 10 0	9 10 0	9 10 0	...			Two " £3 & £2 19s. 7d.
337	"	"	"	Martin Innes	99 "	10 - 10	- 1 26			4 4 7	4 4 7	5 19 7	5 19 7	6 19 7	...			One Sum at Whitsunday 1894.
338	"	"	"	Gilbert Matheson	98 "	7 3 18	1 1 30			4 7 0	3 10 0	6 2 0	6 2 0	4 0 0	2 2 0			One " "
339	"	"	"	James Ross	103 "	7 3 23	2 2 7			5 1 9	4 0 0	7 4 3	7 4 3	4 0 0	3 4 3			One " "
340	"	"	"	Angus Sutherland	116 "	15 - 23	7 - 14			6 3 6	6 3 6	...	...	...	...			One " "

* Has also 4ths of special common of about 40 acres.

† Has also 4ths of special common of about 40 acres.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Extent of Holding.				Share in Common Pasture.	Present Rent.		Fair Rent.		Arrears.			Observations.
					Arable.	Ac. Ro. Po.	Outrun.	Common Pasture.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	Total Amount.	Ordered to be Paid.	Cancelled.	
341	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 Apr. 27	Jessie Macdonald	104 Knockarthur	7 2 12	Ac. Ro. Po. 10 1 2		Acres. 716 (See preceding page.)		£ s. d. 2 7 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 0 7 0	£ s. d. 0 7 0	£ s. d. 0 7 0	£ s. d. ...	Arrears payable in one Sum at Whitsunday 1894.
342	"	"	Widow Marion Ross or Mackay	288 "	2 2 -	6 - 9		None	None	1 1 0	1 10 0	1 10 0	...	...	...	...	
343	"	"	Widow Janet Sutherland or Baillie	95 Druminairgid	10 2 38	8 2 8		322		2 3 5	2 10 0	2 10 0	...	...	...	...	
344	"	"	Widow Ann Sutherland or Macdonald	114 "	7 3 4	4 3 18				1 8 10	2 10 0	2 10 0	1 8 10	1 8 10	1 8 10	...	One "
345	"	"	James and Effie Sutherland	117 "	7 - -	- 3 20				0 5 0	2 0 0	2 0 0	...	...	...	...	"
346	"	"	Widow Margaret Mackay or Baillie	94 "	5 2 21	3 3 1				0 10 0	1 13 0	1 13 0	...	...	...	...	"
347	"	"	John Murray	120 & 100 Inchomney	5 1 31	2 1 16				3 10 0	3 10 0	3 10 0	2 0 0	2 0 0	2 0 0	...	One "
348	"	"	John Bell	108 "	4 3 7	4 - 10				1 15 0	2 0 0	2 0 0	1 15 0	1 15 0	1 15 0	...	One "
349	"	"	Widow Janet Sutherland or Ross	242 "	6 - 23	- 1 7				0 15 7	1 7 0	1 7 0	...	...	...	...	One "
350	"	"	Widow Catherine Mackay	87 "	14 3 1	27 2 28				9 4 0	8 8 0	8 8 0	7 0 0	7 0 0	7 0 0	2 4 0	"
351	"	"	Widow Jane Munro or Matheson	88 "	10 - 28	1 2 10				8 0 0	8 0 0	8 0 0	...	...	...	...	"
352	"	"	Widow Mary Sutherland or Mackay	89 "	11 2 -	- - -				6 0 0	6 10 0	6 10 0	...	...	...	...	"
353	"	"	John Douglas	96 Achachoirce	9 1 14	4 3 7		940		3 3 0	3 3 0	3 3 0	...	...	...	...	"
354	"	"	William Watson	111 "	13 3 29	10 2 37				4 10 0	4 15 0	4 15 0	...	...	...	...	"
355	"	"	Alexander Graham	97 "	10 1 22	12 2 31				5 0 0	5 10 0	5 10 0	...	...	...	...	"
356	"	"	Widow Ann Ross or Graham	113 "	9 1 21	35 3 5				3 10 0	4 10 0	4 10 0	...	...	...	...	One "
357	"	"	Alexander Sutherland	119 "	13 - 35	26 2 25				5 18 0	5 18 0	5 18 0	5 18 0	5 18 0	5 18 0	...	One "
358	"	"	Widow Marion Sutherland or Innes	102 "	8 1 39	18 2 28				3 15 0	4 0 0	4 0 0	1 12 6	1 12 6	1 12 6	...	Three half-yearly instalments of £5, £5 & £4
359	"	"	August Murray	46 Blairmore	6 3 9	- 1 23		596 & 263		4 6 0	2 16 0	2 16 0	19 0 6	19 0 6	14 0 0	5 0 6	One Sum at Whitsunday 1894.
360	"	"	Philip Campbell	44 "	8 3 36	- - -				5 2 0	5 2 0	5 2 0	5 2 0	5 2 0	5 2 0	...	"

* Has also 1st of 16 acres 15 poles meadow.† Has also 1st of 16 acres 15 poles meadow, and 1 of 30 acres common pasture.The remaining 1st of 16 acres 15 poles not dealt with.

APP. A (5)—COUNTY OF SUTHERLAND (continued).—CROFTING PARISH OF ROGART.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Arrears.			Observations.
						Arable.	Ac. Ro. Po.	Outrun.				Total Amount.	Ordered to be Paid.	Cancelled.	
361	Sutherland (His Grace the Duke of Sutherland, Proprietor).	1891 Apr. 28	1893 Dec. 15	Robert Mackay	45 Blairmore	4 2 36	Ac. Ro. Po.	Ac. Ro. Po.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
362	"	"	"	James Macbeath	40 "	10 - 7	5 2 28			5 18 0	5 18 0	5 18 0	5 18 0	...	Arrears payable in one Sum at Whitsunday 1894.
363	"	"	"	Jane Sutherland or Macpherson	41 "	5 - 8	1 1 1			3 8 5	3 15 0	17 5 1	17 5 1	...	Three half-yearly Installments of £3, £5 & £4 5s. 1d.
364	"	"	"	William Mackenzie	48 "	10 - 23	- 2 10			6 0 5	5 15 0	6 0 5	5 0 0	1 0 5	One Sum at Whitsunday 1894.
365	"	"	"	Robert Mackay	47 "	4 2 34	- 3 11			1 14 2	1 10 0	3 1 2	2 0 0	1 1 2	One "
366	"	"	"	Donald Ross	42 Culdrain	2 2 - 4	- - 15			2 6 0	2 10 0	2 6 0	2 6 0	...	One "
367	"	"	"	John Ross	59 "	8 3 4	- 3 5			4 6 0	4 6 0	4 6 0	4 6 0	...	One "
368	"	"	"	Donald Sutherland	60 "	8 3 7	2 1 12			4 10 0	4 10 0	4 10 0	4 10 0	...	One "
369	"	"	"	Jane Grant	58 "	1 3 13	- 1 18			1 0 0	1 0 0	1 6 6	1 6 6	...	One "
370	"	"	"	Robert Matheson	299 "	5 2 38	- - -			2 10 0	3 0 0	2 9 6	2 9 6	...	One "
371	"	"	"	Duncan Macpherson	4 & 1 Achnagarron	5 2 19	1 - 2			2 19 0	3 5 0	2 19 0	2 19 0	...	One "
372	"	"	"	John Mackay	56 Garbhalt	8 - 10	- - -			3 5 0	3 5 0	0 19 6	0 19 6	...	One "
373	"	"	"	Sackville Murray	6 "	8 3 7	- - -			2 10 0	2 10 0	2 10 0	2 10 0	...	One "
374	"	"	"	Donald Murray	29 Baldaggan	10 2 11	- 1 27			6 16 0	6 4 0	20 8 0	6 4 0	14 4 0	Two half-yearly Installments of £3, 4s. & £3.
375	"	"	"	Widow Jessie Murray or Macintosh	28 "	7 2 33	2 2 11			2 15 0	3 0 0	2 15 0	2 15 0	...	One Sum at Whitsunday 1894.
376	"	"	"	William Polson	26 "	12 - 20	- 2 27			4 16 0	5 10 0	4 16 0	4 16 0	...	One "
377	"	"	"	Alexander Ross	32 "	6 3 9	- - -			2 0 0	2 10 0	2 0 0	2 0 0	...	One "
378	"	"	"	Elizabeth Sutherland	256 "	1 - 31	- - 8			0 5 0	0 10 0	0 5 0	0 5 0	...	One "
379	"	"	"	James Murray	239 "	1 - 22	- - 3			0 10 0	0 15 0	0 10 0	0 10 0	...	One "
380	"	"	"	Turnbull Murray	31 "	6 1 7	- - -			2 9 7	2 2 0	2 9 7	1 10 0	0 19 7	One "

* Has no share in new pasture of 263 acres.

† Has also $\frac{1}{2}$ of 64 acres pasture.‡ Has $\frac{1}{2}$ of 64 acres pasture only and no share in 596 or 263 acres.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Holding.			Share in Common Pasture.	Present Rent.	Fair Rent.	Total Amount.		Arrears.		Observations.
						Arable.	Ac. Ro. Po.	Ac. Ro. Po.				£ s. d.	£ s. d.	Ordered to be Paid.	Cancelled.	
381	Sutherland (His Grace the Duke of Sutherland, Proprietor)	1891 April 23	1893 Dec. 15	Daniel Sutherland	Balcraggan	Ac. Ro. Po. 7 1 20	12 1 2	11 3 12	Acres. 596 & 215	£ s. d. 4 8 0	£ s. d. 4 8 0	£ s. d. 3 1 0	£ s. d. 3 1 0	£ s. d. 3 1 0	£ s. d. ...	Arrears payable in one Sum at W unday 1894.
382	"	"	"	Alexander Mackay	2 Achnagarron	12 1 2	11 3 12	8 2 34	596 { 263 & 215	7 6 0	7 6 0	7 6 0	7 6 0	7 6 0	...	One " ,
383	"	"	"	George Ross	7 "	11 3 38	8 2 34	- 10	215	6 5 0	6 5 0	6 5 0	6 5 0	6 5 0	...	" ,
384	"	" 27	"	Widow Murray	215 Rogart Park	1 1 6	- 10	- 10	215	1 0 0	1 0 0	2 0 0	2 0 0	2 0 0	...	Two half-yearly Instalments of £1 each.
385	"	" 28	"	Widow Catherine Murray or Macintosh	42 Farlay (Golspie)	19 3 13	492 3 1	355 1 38	None	14 0 0	13 10 0	10 0 0	9 0 0	9 0 0	1 0 0	One Sum at Whitsunday 1894.
386	"	"	"	Christy and John Mackay	43 "	12 22	355 1 38		"	15 0 0	12 0 0	...	...	...	...	" ,

APP. A (6)—COUNTY OF CAITHNESS—CROFTING PARISHES OF OLRIG, BOWER, AND LATHERON.

1	Ratter (Trustees of J. C. Traill, Proprietor)	1891 Feb. 9	1893 Mar. 17	Donald Weir	Tain (Olrig)	23 - -	- - -	- - -		12 10 0	9 10 0	37 10 0	26 10 0	11 0 0	11 0 0	Arrears payable in one Sum at Whitsunday 1893.
2	Stenster (Alexander Henderson, Proprietor)	Nov. 7	"	John Macleod	Knockdee (Bower)	24 - -	- - -	- - -		9 0 0	4 10 0	59 17 6½	12 0 0	47 17 6½	47 17 6½	Three half-yearly Instalments of £6, £3 & £3
3	Dunbath (W. S. Thomson-Sinclair, Proprietor)	1892 Aug. 6	"	Henry Watters	Balnabruich (Latheron)	25 2 -	- - -	- - -	1772	21 0 0	17 5 0	20 19 2	8 0 0	12 19 2	12 19 2	One Sum at Whitsunday 1893.

APP. A. (7)—COUNTY OF SHETLAND.—CROFTING PARISH OF UNST.

1	Garth (Mejor T. M. Cameron, Proprietor)	1887 May 7	1893 Jan. 26	Magnus Clark	Steggie	7 1 -	1 3 31	297	1/10 of	5 5 0	3 4 0	19 4 6	9 0 0	10 4 6	10 4 6	Arrears payable in three Instalments of £3 each.
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* Has no share in new pasture of 263 acres.

† Has also 1/3 of 64 acres pasture.

APP. B.—TABLE SHOWING, ACCORDING TO COUNTIES AND ESTATES, THE TOTAL NUMBER OF HOLDINGS DEALT WITH IN EACH TOWNSHIP OR DISTRICT, TOTAL EXTENT OF SUCH HOLDINGS, PRESENT RENT, FAIR RENT, DECREASE OR INCREASE, TOTAL ARREARS, AND HOW DISPOSED OF.

(1)—COUNTY OF ORKNEY.

Township.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
EDAY—(H. C. Hebden)												
Mansboat	1	4 1 -	3 3 -	...	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
MELSETTER (J. G. Moodie Heddle)												
South Ronaldshay	20	474 2 25	157 - -	...	...	264 13 0	194 5 0	70 8 0	...	631 13 0	220 0 0	411 13 0
MASSATER (Miss Turnbull Stewart)												
Massater, &c.	18	308 - 35	203 1 39	...	...	135 5 0	106 16 0	28 9 0	...	149 7 6	42 15 0	106 12 6
SMIDDYBANKS (Henry Banks)												
Ronaldsvoe	1	19 2 -	5 2 -	...	...	11 0 0	9 0 0	2 0 0	...	22 10 0	20 10 0	2 0 0
SERRIGAR (William Dennison)												
Sandwick	1	3 2 -	12 2 -	...	...	2 0 0	1 5 0	0 15 0	...	3 0 0	...	3 0 0
LEAKAGE (John Thomson)												
Grimness	1	3 - -	- - -	...	...	2 0 0	1 10 0	0 10 0	...	5 0 0	1 10 0	3 10 0

APP. B (1)—COUNTY OF ORENEY—(continued).

Township.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.		Increase.		Arrears.		
		Arable.	Outrun.	Township Common.	General Common.			£ s. d.	£ s. d.	£ s. d.	£ s. d.	Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ZETLAND (Marquis of Zetland)														
1 South Ronaldshay	41	835 - 33	515 - 22	159	...	376 15 0	283 14 0	93 1 0	...	...	...	1165 10 3	507 2 0	658 8 3
2 Buray	40	294 1 31	151 2 8	...	...	100 17 0	89 5 0	11 12 0	...	...	...	338 9 2	156 15 0	181 14 2
3 Swona	3	11 2 33	- - -	151	...	9 0 0	6 15 0	2 5 0	...	...	...	36 10 0	15 0 0	21 10 0
4 Flotta	35	273 1 30	117 2 16	...	...	121 6 0	92 8 0	28 18 0	...	...	...	377 7 6	118 10 0	258 17 6
5 Deerness, &c. . . .	4	88 - 28	11 2 36	...	...	27 10 0	23 12 0	3 18 0	...	...	...	73 15 0	37 2 0	36 13 0
6 Commons, Birsay	1	30 - -	133 - -	...	...	8 12 0	8 12 0	...	...	...	...	30 19 0	30 19 0	...
	124	1527 3 35	929 - 2	310	...	644 0 0	504 6 0	139 14 0	...	...	...	2022 10 11	865 8 0	1157 2 11
WOODWICK (John Traill)														
North Ronaldshay	53	671 2 14	116 - 20	...	271	438 19 6	300 18 0	138 1 6	...	...	...	1244 11 9	265 1 6	979 10 3
BALFOUR AND TRENABY (Lieut.-Col. Jas. Wm. Balfour)														
Deckaquoey	1	2 - -	27 1 6	...	...	2 0 0	1 15 0	0 5 0	...	...	...	5 0 0	1 15 0	3 5 0
CLOUSTON (Mrs Scarth or Macrae)														
Clouston	1	2 2 -	7 - -	...	...	2 17 0	2 0 0	0 17 0	...	...	...	...	...	...
GRAMESHALL (A. Sutherland Grame)														
Skeal	1	32 - -	10 - -	...	...	14 8 0	11 10 0	2 18 0	...	...	...	14 8 0	11 10 0	2 18 0
ROUSAY (Lieut.-Gen. Burroughs)														
Frotoft, &c. . . .	2	8 - -	11 3 -	...	...	8 0 0	6 0 0	2 0 0	...	...	...	8 10 0	1 0 0	7 10 0

APP. B (2)—COUNTY OF ARGYLL.

Township.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
DUROR—(W. Macalpine Leny)												
Duror	3	48 2 8	11 3 34	500	...	86 0 0	61 0 0	25 0 0	...	29 10 0	...	29 10 0
APPIN—(Appin Trustees)												
Portnacraish, &c.	5	21 - 39	13 3 32	108	...	56 0 0	37 0 0	19 0 0	...	44 7 2	...	44 7 2
AIRDS—(Robert Macfie)												
1 Port Appin	2	12 3 -	4 3 18	188	...	33 0 0	23 0 0	10 0 0	...	83 16 0	25 0 0	58 16 0
2 Port Kerrera	1	2 1 9	16 1 29	...	...	27 0 0	19 0 0	8 0 0	...	118 3 0	40 0 0	78 3 0
LOCHINELL—(R. Watson, Trustee)												
1 Kail	14	94 1 15	80 0 2	58	...	129 4 0	76 13 0	52 11 0	...	142 9 2	18 0 0	124 9 2
2 Black Crofts, &c.	7	17 2 28	6 2 3	100	...	38 12 8	25 5 0	13 7 8	...	43 11 4	3 0 0	40 11 4
3 Kilvaree, &c.	3	18 1 32	59 - 16	...	...	29 17 0	22 9 0	7 8 0	...	43 0 0	13 0 0	30 0 0
4 Airds, &c.	15	47 1 6	58 3 1	705	...	143 14 0	93 4 0	50 10 0	...	253 18 1	37 6 0	221 12 1
5 Kirkton, &c.	9	27 2 4	4 - 9	...	...	64 10 0	43 0 0	21 10 0	...	101 18 6	5 0 0	96 18 6
6 Shore, &c.	7	20 1 16	- - -	54	...	48 16 0	44 14 0	24 2 0	...	99 13 10	7 12 4	92 1 6
7 Kilmore	1	2 1 -	- - -	...	...	6 0 0	3 14 0	2 6 0	...	3 0 0	...	3 0 0
FERRY PARK—(J. S. M'Caig)												
Ferry Park	1	8 - -	26 1 36	...	...	16 0 0	8 0 0	8 0 0	...	11 10 0	...	11 10 0
GLENCOE—(A. H. Ballingal, Trustee)												
1 Upper Carnoch	18	43 2 26	12 - -	161	1940	111 19 2	80 9 0	31 16 2	...	89 4 6	2 0 0	87 4 6
2 Carnoch	7	13 3 31	2 1 2	106		29 14 4	25 6 0	4 8 4	...	8 16 0	...	8 16 0
3 Tighphunst	5	4 2 9	- 3 4	32		21 12 8	20 16 0	0 16 8	...	4 1 6	...	4 1 6
	30	62 - 26	15 - 6	314	1940	168 6 2	126 5 0	37 1 2	...	102 2 0	2 0 0	100 2 0

APP. B (2)—COUNTY OF ARGYLL—(continued).

Township.	Number of Holdings.	Extent of Holding.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ARDGOUR—(Tutors of A. J. H. Maclean)												
1 Clonulla	12	44 — —	— — —	98	...	84 2 6	55 18 0	28 4 6	...	15 11 4	...	15 11 4
2 Culmoss	2	6 — —	— — —	45	...	8 10 0	4 12 0	3 18 0	...	...	...	...
3 Ruarach	1	1 — —	9 — —	...	...	5 0 0	4 2 0	0 18 0	...	...	...	...
15	15	51 — —	9 — —	143	...	97 12 6	64 12 0	33 0 6	...	15 11 4	...	15 11 4
CONAGLEN—(Earl of Morton)												
4 Treslaig	9	24 2 —	30 3 30	421	...	37 19 2	29 18 0	8 1 2	...	11 4 8	3 0 0	8 4 8
5 Blaich	25	109 — 15	254 3 36	1055	...	135 4 6	97 5 0	37 19 6	...	95 7 2	24 18 0	70 9 2
6 North Duiskey	5	18 2 19	34 2 —	619	...	23 15 2	18 7 0	5 8 2	...	38 19 2	12 10 0	26 9 2
7 South Garvan	8	18 — 15	34 2 17	775	...	20 2 10	15 6 0	4 16 10	...	54 2 2	11 13 0	42 9 2
47	47	170 1 9	355 0 3	2870	...	217 1 8	160 16 0	56 5 8	...	199 13 2	52 1 0	147 12 2
SUNART—(Sir Rodney 3. Riddell, Bart.)												
8 Scotstown	32	71 — 30	18 2 9	1100	...	148 12 8	90 3 10	58 8 10	...	491 2 11	124 14 1	366 8 10
9 Ariundle	1	2 — 19	2 — 26	...	...	16 0 0	13 0 0	3 0 0	...	16 0 0	4 0 0	12 0 0
10 Anyheilt	27	63 1 3	46 — 29	850	...	147 15 8	94 12 6	53 3 2	...	446 11 6	124 9 0	322 2 6
11 Ardnaisting	11	21 — 29	7 — 6	130	...	47 9 2	32 10 5	14 18 9	...	110 0 2	45 0 0	65 0 2
12 Woodend	1	2 1 30	— 1 —	...	...	5 2 0	3 10 0	1 12 0	...	7 12 0	2 0 0	5 12 0
13 Bunateachan	1	1 2 3	— — —	...	...	5 19 0	2 15 0	3 4 0	...	38 12 6	5 10 0	33 2 6
14 Camusachoir	4	9 1 —	— — —	88	...	24 14 4	13 4 0	11 10 4	...	100 8 2	24 0 0	76 8 2
15 Camusine	1	3 1 38	2 — —	...	...	7 4 6	5 13 0	1 11 6	...	18 3 3	8 0 0	10 3 3
16 Ardshellach	1	4 — —	15 — —	...	...	4 5 0	3 8 0	0 17 0	...	5 2 6	2 0 0	3 2 6
79	79	178 1 32	91 — 30	2,168	...	407 2 4	258 16 9	148 5 7	...	1,233 13 0	339 13 1	893 19 11
BREADALBAN—(Marquis of Breadalbane)												
17 Oban Sall	1	8 — —	14 2 —	...	...	19 10 0	12 0 0	7 10 0	...	88 5 0	18 0 0	70 5 0

APP. B (2)—COUNTY OF ARGYLL—(continued).

Township.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
INNISTRYNICH—(W. C. Muir)	1	1 2 -	- - -	123	...	6 0 0	3 10 0	2 10 0	...	...	...	...
Kilchrean												
CUMLODDEN—(Lady Campbell)	2	5 - -	- - -	...	...	21 17 6	15 10 0	6 7 6	...	...	...	...
Inverae												
INVERSEIL—(Captain Duncan Campbell)	1	2 - -	- - -	...	...	4 10 0	3 0 0	1 10 0	...	4 10 0	...	4 10 0
Tayvallich												
ROSS—(Captain Duncan Campbell)	1	3 - -	1 - -	...	...	10 0 0	7 0 0	3 0 0	...	10 15 3	...	10 15 3
Kentallen												
CASTLETON—(R. C. G. Campbell)	4	17 - 11	- - -	185	...	44 10 0	33 7 0	11 3 0	...	...	...	...
Silvercraigs												
STONEFIELD—(C. G. P. C. Campbell)	4	12 2 4	14 2 11	...	...	41 3 0	26 0 0	15 3 0	...	176 2 0	62 0 0	114 2 0
Cove, &c.												
TORRISDALE—(Colonel Carrick Buchanan)	5	19 3 -	16 3 -	...	...	42 0 0	33 13 0	8 7 0	...	67 4 9	37 8 0	29 16 9
Lippincorach												
KILDALTON—(Executors of late John Ramsay)	7	54 - -	344 - -	...	...	24 10 0	21 10 0	3 0 0	...	28 0 0	10 10 0	17 10 0
Lotts												
Lotts, Duich	3	19 - -	56 - -	...	...	6 10 0	5 10 0	1 0 0	...	25 10 0	8 10 0	17 0 0
Cragabus	4	92 - -	- - -	600	...	81 9 2	62 0 0	19 9 2	...	40 14 7	20 0 0	20 14 7

APP. B (2)—COUNTY OF ARGYLL—(continued).

Township.	Number of Holdings.	Extent of Holdings.				Present Rent. £ s. d.	Fair Rent. £ s. d.	Decrease. £ s. d.	Decrease. £ s. d.	Arrears.		
		Arable.	Outrun.	Township Common. Acres.	General Common. Acres.					Total Amount. £ s. d.	Ordered to be Paid. £ s. d.	Cancelled. £ s. d.
KILDALTON—(continued).												
Coilebus	2	70 — —	27 — —	...	...	36 0 0	28 0 0	8 0 0	...	82 4 3	44 0 0	38 4 3
Killevan	1	27 — —	105 — —	...	...	22 0 0	16 6 0	4 14 0	...	...	...	..
Curalach	1	25 — —	91 — —	...	...	14 0 0	9 10 0	4 10 0	...	28 0 0	18 0 0	10 0 0
ISLAY—(Charles Morrison)												
Tormisdale	1	32 — —	100 — —	...	...	24 17 4	20 5 0	4 12 4	...	16 11 2	...	16 11 2
SUNDERLAND—(James Smith)												
Woodside	1	2 2 —	— — —	...	...	6 0 0	6 0 0	...	...	...	...	...
CLADVILLE—(Mrs Baker)												
Claddach	9	78 — —	122 3 39	...	...	88 0 0	60 10 0	27 10 0	...	133 10 0	24 10 0	109 0 0

APP. B (3)—COUNTY OF INVERNESS.

RAASAY—(Mrs Wood)												
Raasay	1	3 — —	96 — —	...	...	2 13 0	2 13 0	...	...	...	...	...
MACLEOD—(Macleod of Macleod)												
1 Struanmore	18	64 3 25	39 3 37	172	...	54 0 0	45 0 0	9 0 0	...	145 18 1	49 5 0	96 13 1
2 Eboist	2	2 1 32	2 1 —	...	...	5 0 0	4 0 0	1 0 0	...	14 6 4	4 0 0	10 6 4
3 Herebost	1	2 3 1	7 2 20	...	{ 306 1180}	1 10 0	2 0 0	...	0 10 0	...	...	...

APP. B (3)—COUNTY OF INVERNESS—(continued).

Township.	Number of Holdings.	Extent of Holdings.				Present Rent. £ s. d.	Fair Rent. £ s. d.	Increase. £ s. d.	Increase. £ s. d.	Arrears.				
		Arable. Ac. Ro. Po.	Outrun. Ac. Ro. Po.	Township Common. Acres.	General Common. Acres.					Total Amount. £ s. d.	Ordered to be Paid. £ s. d.	Cancelled. £ s. d.		
MACLEOD—(continued).														
4 Roskhill	4	12 1 10	3 - 15	1,180	...	7 0 6	7 0 6	...	...	6 11 0	6 11 0	...		
5 Kilmuir	1	3 2 16	1 - 12	...	...	2 9 10	2 9 10	...	...	...	...	...		
6 Kinloch	1	21 1 34	24 - -	...	...	5 6 5	10 0 0	...	4 13 7	28 12 10	10 0 0	18 12 10		
7 Soay	12	10 2 -	...	2,604	...	27 0 0	20 0 0	7 0 0	...	78 2 6	30 10 0	47 12 6		
	39	117 3 38	83 - 4	3,956	1,486	102 6 9	90 10 4	17 0 0	5 3 7	273 10 9	100 6 0	173 4 9		
GRENDALE—(Trustees of Rev. H. A. Macpherson)														
Colbost	2	7 1 1	38 2 19	834	...	8 17 0	6 1 0	2 16 0	...	29 16 7	9 0 0	20 16 7		
HUSABOST—(Nicol Martin)														
Ferrinvicquarie	1	2 1 -	1 2 1	...	...	1 15 0	1 15 0	...	...	...	...	...		
NORTH UIST—(Sir J. W. P. C. Orde, Bart.)														
Lochnaddy	1	3 3 -	3 - -	...	...	2 0 0	2 0 0	...	...	...	...	...		
HARRIS—(Trustees of Sir E. H. Scott, Bart.)														
1 Eileananabuch	4	16 3 12	135 - 28	2,274	...	17 10 4	12 17 0	4 13 4	...	149 13 6	39 0 0	110 13 6		
2 Marig, &c.	8	14 1 32	268 - 8	1,690	...	16 0 0	16 0 0	...	...	61 11 5	47 16 5	13 15 0		
3 Bowglass	2	5 3 24	25 - 16	576	...	4 0 0	5 0 0	...	1 0 0	...	...	...		
4 Bunavoneader	3	6 3 14	163 1 6	402	...	6 0 0	6 0 0	...	...	9 2 6	9 2 6	...		
5 Leosavaig, &c.	7	13 - 33	...	1,873	...	14 0 0	14 0 0	...	...	70 4 6	36 17 0	33 7 6		
6 Luachair, &c.	5	8 2 17	57 1 31	1,345	...	10 0 0	10 0 0	...	...	63 5 2	30 0 0	33 5 2		
7 Scarp	16	35 3 34	91 2 28	2,395	...	70 0 0	36 0 0	34 0 0	...	842 17 7	100 6 0	742 12 7		
8 Big and Little Soay	2	2 - 8	149 1 32	...	...	2 0 0	2 0 0	...	...	4 13 0	4 13 0	...		
	47	103 3 14	890 - 29	10,555	...	139 10 4	101 17 0	38 13 4	1 0 0	1,201 7 8	267 13 11	983 13 9		

APP. B (4)—COUNTY OF ROSS AND CROMARTY.

Estate.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
GARLOCH (Sir Kenneth S. Mackenzie, Bart.)												
	1 Portlair	8 - 23	27 - 14	800	...	10 0 0	10 0 0	...	...	10 0 0	10 0 0	...
	2 Upper Diabaig	15 - 7	11 3 23	685	...	13 10 0	13 10 0	...	...	41 10 0	16 0 0	25 10 0
	3 Craig	10 - 38	19 - 38	800	...	15 15 0	12 0 0	3 15 0	...	107 10 8	20 0 0	87 10 8
	4 Aird	11 1 18	4 - 7	300	...	16 0 0	16 0 0	...	...	112 1 0	45 0 0	67 1 0
	7	44 2 39	62 - 35	2585	...	55 5 0	51 10 0	3 15 0	...	271 1 8	91 0 0	180 1 8
BEN DAMPH—(Earl of Lovelace)												
Anaht	13	22 3 -	...	910	...	52 0 0	26 0 0	26 0 0	...	...	...	...

APP. B (5)—COUNTY OF SUTHERLAND.

SUTHERLAND (Duke of Sutherland)		Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
SUTHERLAND (Duke of Sutherland)	1 Kinbrace	8 - 2	12 - 2	...	...	9 0 0	7 4 0	1 15 0	...	18 0 0	14 0 0	4 0 0
	2 Naviedale	112 - 29	24 1 1	...	...	50 5 2	42 16 11	7 8 3	...	29 18 0	16 14 0	13 4 0
	3 East Helmsdale	55 1 13	5 3 12	...	406	34 6 0	26 19 0	7 7 0	...	55 3 6	36 3 0	19 0 6
	4 Carnlaggie	17 - 2	2 2 12	...	...	8 10 0	7 5 0	1 5 0	...	26 10 0	11 10 0	9 0 0
	5 Marrel	70 - 13	10 2 26	...	...	33 8 0	36 5 6	2 2 6	...	70 8 6	35 6 0	35 3 6
	6 West Helmsdale	196 2 27	24 1 -	...	2,150	102 18 8	95 14 3	7 4 5	...	155 19 2	100 9 6	55 9 8
	7 Gartymore	202 3 5	63 2 -	...	...	108 12 11	100 14 9	7 18 2	...	139 9 10	93 13 7	45 16 3
	8 Portgower	59 2 11	4 2 19	...	...	39 16 3	33 12 9	6 3 6	...	42 3 6	25 0 0	17 3 6
	9 Culgower	27 2 8	5 2 4	116	...	22 6 0	18 13 0	3 13 0	...	38 11 0	17 18 0	20 13 0
	10 Craikaig	21 - 20	1 1 12	190	...	19 0 0	17 13 0	1 2 0	...	7 11 0	7 6 0	0 5 0

APP. B (5)—COUNTY OF SUTHERLAND—(continued).

Estate.	Number of Holdings.	Extent of Holdings.				Present Rent. £ s. d.	Fair Rent. £ s. d.	Decrease. £ s. d.	Increase. £ s. d.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount. £ s. d.	Ordered to be Paid. £ s. d.	Cancelled. £ s. d.
				Acres.								
SUTHERLAND—(continued).												
11 Lothmore	4	9 3 2	— — 24	93	...	7 15 0	6 7 0	1 8 0	...	8 5 0	5 15 0	2 10 0
12 Lothbeg	2	5 — —	— — —	30	...	4 10 0	4 0 0	0 10 0	...	2 10 0	2 0 0	0 10 0
13 Achellie	5	32 — 27	25 2 16	...	1,650 & 1,900	23 2 3	22 18 6	0 3 9	...	41 5 3	26 19 0	14 6 3
14 Ardochy	5	62 2 11	26 1 16	...		27 11 9	27 19 3	...	0 7 6	39 12 0	34 17 0	4 15 0
15 Achvreal	5	46 3 36	23 2 19	...		29 2 9	27 0 3	2 2 6	...	60 5 3	32 16 6	27 8 9
16 Dalnambrec	1	2 1 7	— 1 26	...	...	4 3 6	4 3 6	...	...	3 0 0	3 0 0	...
17 Rossal	4	46 3 —	17 — 8	...	...	31 10 9	31 0 0	0 10 9	...	34 10 9	30 10 0	4 0 9
18 Inchcape	8	53 3 21	18 2 10	...	...	35 2 0	30 17 0	4 5 0	...	54 2 6	34 5 0	19 17 6
19 Inchoraig	1	13 2 14	7 2 6	...	...	6 0 0	6 0 0	...	...	...	...	...
20 Dalmore	5	36 3 16	5 — 9	...	...	17 8 2	21 2 0	...	3 13 10	24 7 5	20 13 5	3 14 0
21 Muie	17	120 — 11	83 2 33	380	...	71 17 3	70 11 0	1 6 3	...	109 12 6	81 0 0	28 12 6
22 Blarich	1	17 3 8	5 3 23	...	...	8 0 0	8 8 0	...	0 8 0	8 0 0	8 0 0	...
23 Achnaluaichrach	1	20 — 24	315 2 2	...	...	28 0 0	25 0 0	3 0 0	...	56 0 0	45 0 0	11 0 0
24 West Langwell	9	75 1 24	136 — 32	380 & 1426	}	42 17 1	53 9 0	...	10 11 11	88 3 9	71 18 9	16 5 0
25 East Langwell	5	56 1 39	156 2 14	1323 & 345		38 19 0	47 9 0	...	8 10 0	23 19 0	21 5 0	2 14 0
26 Acha-na-caillich	1	27 3 30	— — —	...		8 3 0	12 10 0	...	4 7 0	8 3 0	8 3 0	...
27 Rhiandoggie	1	7 3 2	— 3 29	...	118	5 0 0	5 0 0	...	...	...	...	...
28 Morneas	6	61 2 15	26 — 33	191		29 6 0	24 14 0	4 12 0	...	25 15 0	16 10 0	9 5 0
29 Breac-achadh	4	40 — 9	18 3 6	...		10 8 0	11 2 0	...	0 14 0	5 3 0	2 15 0	2 8 0
30 Little Rogart	7	44 3 29	5 2 34	86	...	27 6 0	26 17 0	0 9 0	...	43 8 0	26 10 0	16 18 0
31 Pitfour	2	18 3 —	72 3 27	...	...	5 18 6	5 18 6	...	...	22 2 6	10 10 0	11 12 6
32 Torbreck	3	21 3 10	22 1 39	186	...	14 0 0	14 5 0	...	0 5 0	8 10 0	7 10 0	1 0 0
33 Pittentrail	4	33 3 34	10 1 39	...	300*	17 2 0	18 18 0	...	1 16 0	11 16 0	9 0 0	2 16 0

* Common to Fittentrail and Reidlin.

APP. B (5)—COUNTY OF SUTHERLAND—(continued).

Township.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Arrears.		
		Arable.	Outrun.	Township Common.	General Common.					Total Amount.	Ordered to be Paid.	Cancelled.
				Acres.	Acres.							
Ac. Ro. Po.	Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
SUTHERLAND—(continued).												
34 Reidlin	1	13 2 20	5 1 31	...	...	5 12 0	6 0 0	...	0 8 0	8 4 0	8 4 0	...
35 Reidhalmie	1	17 2 3	88 - 25	...	...	11 10 0	10 5 0	1 5 0	...	11 10 0	10 0 0	1 10 0
36 Bank	3	22 - 4	39 2 7	...	...	16 16 0	15 19 5	0 16 7	...	22 2 5	20 10 10	1 11 7
37 Rhinusaig	7	40 1 23	28 3 19	...	418	23 9 7	25 3 0	...	1 13 5	7 4 9	7 4 9	...
38 Kinnauld	1	5 - 19	- 14	...	...	4 8 0	5 0 0	...	0 12 0	...	...	...
39 Dalraevoch	1	13 - 18	6 - 17	...	686	7 11 0	9 4 0	...	1 13 0	7 11 0	7 11 0	...
40 Tannachy	4	31 3 7	5 1 6	...	...	24 10 0	23 6 0	1 4 0	...	35 10 0	31 10 0	4 0 0
41 Craggiemore	1	6 1 13	79 2 20	...	...	10 0 0	10 0 0	...	...	20 0 0	20 0 0	...
42 Craggiebeg	5	32 1 26	26 1 14	...	455	18 18 4	18 3 0	0 15 4	...	21 2 4	19 7 4	1 15 0
43 Banskoll	1	6 2 15	11 1 25	...	...	4 3 9	4 3 9	...	...	4 3 9	4 3 9	...
44 Blackburn	1	8 - -	2 - 2	...	...	2 2 0	2 2 0	...	...	2 2 0	2 2 0	...
45 Reidlochan	4	42 1 23	68 1 15	...	716	23 8 0	20 16 0	2 12 0	...	68 4 0	45 8 0	22 16 0
46 Knockarthur	8	66 8 11	35 - 31	...	...	33 6 5	31 1 1	2 5 4	...	33 9 5	23 16 7	9 12 10
47 Drummaingaid	4	31 - 23	18 - 7	...	322	4 7 3	8 13 0	...	4 5 9	1 8 10	1 8 10	...
48 Inchomney	6	52 3 10	35 3 29	...	...	29 4 7	29 15 0	...	0 10 5	12 19 0	10 15 0	2 4 0
49 Achachoirce	6	64 3 -	109 1 13	940	...	25 16 0	27 16 0	...	2 0 0	7 10 6	7 10 6	...
50 Blairmore	7	50 1 33	8 2 33	...	...	29 4 0	27 11 0	1 13 0	...	56 7 2	49 5 1	7 2 1
51 Culdrain	5	27 2 16	3 2 10	...	...	14 12 0	15 6 0	...	0 14 0	14 18 0	14 18 0	...
52 Achnagarron	1	5 2 19	1 - 2	...	596 263 215 64	2 19 0	3 5 0	...	0 6 0	2 19 0	2 19 0	...
53 Garbhalt	2	16 3 17	- - -	...	...	5 15 0	5 15 0	...	...	3 9 6	3 9 6	...
54 Balclaggan	8	53 - 33	3 2 35	...	...	23 19 7	24 19 0	...	0 19 5	36 4 7	21 1 0	15 3 7
55 Achnagarron	2	23 2 -	20 2 6	...	...	13 11 0	13 11 0	...	...	13 11 0	13 11 0	...

APP. B (5)—COUNTY OF SUTHERLAND—(continued).

Township.	Number of Holdings.	Extent of Holdings.					Present Rent. £ s. d.	Fair Rent. £ s. d.	Decrease. £ s. d.	Increase. £ s. d.	Arrears.		Cancelled.
		Arable. Ac. Ro. Po.	Outrun. Ac. Ro. Po.	Township Common. Acres.	General Common. Acres.	Total Amount. £ s. d.					Ordered to be Paid. £ s. d.		
SUTHERLAND—(continued).													
56 Rogart Park	1	1 1 6	— 10	...	...	1 0 0	1 0 0	...	...	2 0 0	2 0 0	...	...
57 Farlay	2	31 3 35	848 — 39	...	...	29 0 0	25 10 0	3 10 0	...	10 0 0	9 0 0	1 0 0	1 0 0
	386	2297 0 31	2579 3 27	5686	10,259	1291 9 6	1256 16 5	78 8 4	43 15 3	1658 17 8	1192 13 11	466 3 9	

APP. B (6)—COUNTY OF CAITHNESS.

BATTER—(Trustees of James C. Traill).	2								...	31 5 4	19 3 4	1 11
Tain	1	23 — —	— — —	...	...	12 10 0	9 10 0	3 0 0	...	37 10 0	26 10 0	11 0 0
STEMSTER—(Alexander Henderson)												
Knockdee	1	24 — —	— — —	...	...	9 0 0	4 10 0	4 10 0	...	59 17 6 1/2	12 0 0	47 17 6 1/2
DUNBEATH—(W. S. Thomson-Sinclair)												
Balnabruich	1	25 2 —	— — —	1772	...	21 0 0	17 5 0	3 15 0	...	20 10 2	38 0 0	12 10 2

APP. B (7)—COUNTY OF SHETLAND.

GARTH—(Major T. M. Cameron)												
Skeggie	1	7 1 —	1 3 31	297	...	5 5 0	3 4 0	2 1 0	...	19 4 6	9 0 0	10 4 6

APP. C—TABLE SHOWING, ACCORDING TO COUNTIES AND ESTATES, THE TOTAL NUMBER OF HOLDINGS DEALT WITH, TOTAL EXTENT OF SUCH HOLDINGS, PRESENT RENT, FAIR RENT, DECREASE OR INCREASE, PERCENTAGE OF REDUCTION OR INCREASE, TOTAL ARREARS, AND HOW DISPOSED OF, AND PERCENTAGE OF ARREARS CANCELLED.

APP. C—(1)—COUNTY OF ORKNEY.

Estate.	Number of Holdings.	Extent of Holdings.			Present Rent.	Fair Rent.	Decrease.	Increase.	Percentage Reduction.	Percentage of Increase.	Arrears.		Percentage of Arrears Cancelled.
		Arable.	Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	General Common.				Total Amount.	Ordered to be Paid.	
											£ s. d.	£ s. d.	£ s. d.
Eday (H. C. Heblen)	1	4 1	—	3 3	—	—	—	—	—	—	—	—	—
Melsetter (J. G. M. Heddle)	20	474 2 25	157	—	—	—	—	—	—	—	631 13 0	220 0 0	411 13 0
Massater (Miss Turnbull Stewart)	18	308	— 35	203 1 39	—	—	—	—	—	—	149 7 6	42 15 0	106 12 6
Sniddybanks (Henry Banke)	1	19 2	—	5 2	—	—	—	—	—	—	22 10 0	20 10 0	2 0 0
Serrigar (William Dennison)	1	3 2	—	12 2	—	—	—	—	—	—	3 0 0	—	3 0 0
Leakage (John Thomson)	1	3	—	—	—	—	—	—	—	—	5 0 0	1 10 0	3 10 0
Zetland (Marquis of Zeland)	124	1527 3 35	929	— 2	—	—	—	—	—	—	2022 10 11	865 8 0	1157 2 11
Woodwick, North Ronaldshay (John Trail)	53	671 2 14	116	— 20	—	—	—	—	—	—	1244 11 9	265 1 6	979 10 3
Balfour and Trenaby (Lt.-Col. J. W. Balfour)	1	2	—	27 1 6	—	—	—	—	—	—	3 0 0	1 15 0	3 5 0
Clouston (Mrs Scarth or Macrae)	1	2 2	—	7	—	—	—	—	—	—	—	—	—
Grameshall (A. Sutherland Greame)	1	32	—	10	—	—	—	—	—	—	14 8 0	11 10 0	2 18 0
Rousay (Lt.-Gen. Burroughs)	2	3	—	11 3	—	—	—	—	—	—	3 10 0	1 0 0	7 10 0
	224	3057	— 29	1433 1 27	310	271	—	—	—	—	4106 11 2	1429 9 6	2677 1 8
													65-190

APP. C (2)—COUNTY OF ARGYLL.

Estate.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Percentage Reduction.	Percentage of Increase.	Arrears.			Percentage of Arrears Cancelled.
		Arable.	Outrun.	Township Common.	General Common.							Total Amount.	Ordered to be Paid.	Cancelled.	
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Dunor (W. Macalpine Leary) . . .	3	48 2 8	11 3 24	500	...	86 0 0	61 0 0	25 0 0	...	29-069	...	29 10 0	...	29 10 0	100-000
Appin (Appin Trustees) . . .	5	21 - 39	13 3 32	108	...	56 0 0	37 0 0	19 0 0	...	33-928	...	44 7 2	...	44 7 2	100-000
Airds (Robert Machie) . . .	3	15 - 9	21 1 7	188	...	60 0 0	42 0 0	18 0 0	...	30-000	...	201 19 0	65 0 0	136 19 0	67-813
Lochnell (R. Watson, Trustee) . . .	56	227 3 21	208 1 31	917	...	480 13 8	308 19 0	171 14 8	...	35-727	...	692 10 11	83 13 4	608 12 7	87-882
Ferry Park (J. S. M'Caig) . . .	1	8 - -	26 1 36	...	...	16 0 0	8 0 0	8 0 0	...	50-000	...	11 10 0	...	11 10 0	100-000
Glencoe (A. H. Ballingal, Trustee) . . .	30	62 - 26	15 - 6	314	1940	163 6 2	126 5 0	37 1 2	...	22-692	...	102 2 0	2 0 0	100 2 0	98-041
Ardgour (Tutors of A. J. H. Maclean) . . .	15	51 - -	9 - -	143	...	97 12 6	64 12 0	33 0 6	...	33-828	...	15 11 4	...	15 11 4	100-000
Conaglen (Earl of Morton) . . .	47	170 1 9	355 - 3	2870	...	217 1 8	160 16 0	56 5 8	...	25-927	...	199 13 2	52 1 0	147 12 2	73-930
Sunart (Sir Rodney S. Riddle, Bart.) . . .	79	178 1 32	91 - 30	2168	...	407 2 4	258 16 9	148 5 7	...	36-421	...	1233 13 0	339 13 1	898 19 11	72-467
Breadalbane (Marquis of Breadalbane) . . .	1	8 - -	14 2 -	...	...	19 10 0	12 0 0	7 10 0	...	38-461	...	88 5 0	18 0 0	70 5 0	79-803
Innistyrnich (W. C. Muir) . . .	1	1 2 -	- - -	123	...	6 0 0	3 10 0	2 10 0	...	41-666	...	...	...	...	...
Cumblodden (Lady Campbell) . . .	2	5 - -	- - -	...	...	21 17 6	15 10 0	6 7 6	...	29-142	...	...	...	...	...
Invernell (Capt. Duncan Campbell) . . .	1	2 - -	- - -	...	...	4 10 0	3 0 0	1 10 0	...	33-333	...	4 10 0	...	4 10 0	100-000
Ross (") . . .	1	3 - -	1 - -	...	...	10 0 0	7 0 0	3 0 0	...	30-000	...	10 15 3	...	10 15 3	100-000
Castleton (R. C. G. Campbell) . . .	4	17 - 11	- - -	...	...	44 10 0	33 7 0	11 3 0	...	25-056	...	...	...	...	...
Stonefield (C. G. P. Clinton Campbell) . . .	4	12 2 4	14 2 11	...	...	41 3 0	26 0 0	15 3 0	...	36-816	...	176 2 0	62 0 0	114 2 0	64-792
Torrissdale (Col. Buchanan) . . .	5	19 3 -	16 3 -	...	...	42 0 0	33 13 0	8 7 0	...	19-880	...	67 4 9	37 8 0	29 16 9	44-376
Kildalton (Executors of John Ramsay) . . .	18	287 - -	623 - -	600	...	184 9 2	142 16 0	40 13 2	...	22-162	...	204 8 10	101 0 0	103 8 10	55-097
Islay (Charles Morrison) . . .	1	32 - -	100 - -	...	...	24 17 4	20 5 0	4 12 4	...	18-565	...	16 11 2	...	16 11 2	100-000
Sunderland (James Smith) . . .	1	2 2 -	- - -	...	...	6 0 0	6 0 0	...	...	...	...	...	...	...	...
Cladville (Mrs Baker) . . .	9	78 - -	122 3 39	...	...	88 0 0	60 10 0	27 10 0	...	31-250	...	133 10 0	24 10 0	109 0 0	81-047
	287	1250 3 39	1645 - 19	7981	1940	2076 13 4	1430 19 9	644 13 7	...	31-058	...	3232 3 7	785 10 5	2446 13 2	75-696

APP. C (3)—COUNTY OF INVERNESS.

Estate.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Percentage Reduction of	Percentage of Increase.	Arrears.			Percentage of Arrears Cancelled.
		Arable.	Outrun.	Ac. Ro. Po.	Township Common.	General Common.						Total Amount.	Ordered to be Paid.	Cancelled.	
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Raasay (Mrs Wood)	1	3 - -	96 - -	...	...	...	2 13 0	2 13 0	...	...	...	...	...	...	...
Macleod (Macleod of Macleod) . .	39	117 3 38	83 - 4	3956	1486	...	102 6 9	90 10 4	11 16 5	11 550	...	293 10 9	100 6 0	173 4 9	59-017
Glendale (Trustees of Rev. H. A. Macpherson)	2	7 1 1	38 2 19	834	...	...	8 17 0	6 1 0	2 16 0	31 638	...	29 16 7	9 0 0	20 16 7	69-828
Husbobst (Nicol Martin) . . .	1	2 1 -	1 2 1	...	...	...	1 15 0	1 15 0	...	...	...	...	...	...	...
North Uist (Sir J. Campbell Orde, Bart.)	1	3 3 -	3 - -	...	...	...	2 0 0	2 0 0	...	...	...	...	...	...	...
Harris (Trustees of Sir E. H. Scott, Bart.)	47	103 3 14	890 - 29	10,555	...	...	139 10 4	101 17 0	37 13 4	26 999	...	1201 7 8	267 13 11	933 13 9	77-717
	91	238 - 13	1112 1 13	15,345	1486	...	237 2 1	204 16 4	52 5 9	20 337	...	1504 15 0	376 19 11	1127 15 1	74-946

APP. C (4)—COUNTY OF ROSS AND CROMARTY.

Gairloch (Sir K. S. Mackenzie, Bart.)	7	44 2 39	62 - 35	2585	...	55 5 0	51 10 0	3 15 0	...	6 787	...	271 1 8	91 0 0	130 1 8	66-430
Ben Damph (Earl of Lovelace) . .	13	22 3 -	- - -	910	...	52 0 0	26 0 0	26 0 0	...	50 000	...	...	...	...	...
	20	67 1 39	62 - 35	3495	...	107 5 0	77 10 0	29 15 0	...	27 738	...	271 1 8	91 0 0	130 1 8	66-430

APP. C (5)—COUNTY OF SUTHERLAND.

Sutherland (Duke of Sutherland) .	386	2297 - 31	2579 3 27	5686	10,259	1291 9 6	1256 16 5	34 13 1	...	2 683	...	1653 17 8	1192 13 11	466 3 9	28-102
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APP. C (6)—COUNTY OF CAITHNESS.

Estate	Number of Holdings.	Extent of Holdings.						Fair Rent.	Decrease.	Increase.	Percentage Reduction.	Percentage of Increase.	Arrears.			Percentage of Arrears Cancelled.
		Arable.		Outrun.		Township Common.	General Common.						Total Amount.	Ordered to be Paid.	Cancelled.	
		Ae.	Ro. Po.	Ae.	Ro. Po.											
Batter (Trustees of J. C. Traill) .	1	23	-	-	-	...	12 10 0	9 10 0	3 0 0	...	24·000	...	37 10 0	26 10 0	11 0 0	29·333
Stenster (Alexander Henderson)	1	24	-	-	-	...	9 0 0	4 10 0	4 10 0	...	50·000	...	59 17 6½	12 0 0	47 17 6½	79·953
Dunbeath (W. S. Thomson-Sinclair) .	1	25	2	-	-	1772	21 0 0	17 5 0	3 15 0	...	17·857	...	20 19 2	8 0 0	12 19 2	61·829
	3	72	2	-	-	1772	42 10 0	31 5 0	11 5 0	...	26·470	...	118 6 8½	46 10 0	71 16 8½	60·704

APP. C (7)—COUNTY OF SHETLAND.

Garth (Major T. M. Cameron) .	1	7	1	—	1	3	31	297	—	5	5	0	3	4	0	2	1	0	—	39·047	...	19 4 6	9 0 0	10 4 6	53·185
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APP. D—TABLE SHOWING, ACCORDING TO COUNTIES, THE TOTAL NUMBER OF HOLDINGS DEALT WITH, TOTAL EXTENT OF SUCH HOLDINGS, PRESENT RENT, FAIR RENT, DECREASE, PERCENTAGE OF REDUCTION, TOTAL ARREARS AND HOW DISPOSED OF, AND PERCENTAGE OF ARREARS CANCELLED.

County.	Number of Holdings.	Extent of Holdings.				Present Rent.	Fair Rent.	Decrease.	Increase.	Percentage Reduction of	Percentage of Increase.	Arrears.		Cancelled.	Percentage of Arrears Cancelled.
		Arable.	Outrun.	Township Common.	General Common.							Total Amount.	Ordered to be Paid.		
		Ac. Ro. Po.	Ac. Ro. Po.	Acres.	Acres.	£ s. d.	£ s. d.	£ s. d.	£ s. d.			£ s. d.	£ s. d.	£ s. d.	
Orkney	224	3,057 29	1,483 1 27	310	271	1,529 12 6	1,142 0 0	387 12 6	...	25-342	...	4,106 11 2	1,439 9 6	2,677 1 8	65-190
Argyll	287	1,250 3 39	1,645 - 19	7,931	1,940	2,076 13 4	1,430 19 9	644 13 7	...	31-053	...	3,232 3 7	785 10 5	2,446 13 2	75-696
Inverness	91	238 - 13	1,112 1 13	15,345	1,486	257 2 1	204 16 4	52 5 9	...	20-337	...	1,504 15 0	376 19 11	1,127 15 1	74-946
Ross and Cromarty	20	67 1 39	62 - 35	3,495	...	107- 5 0	77 10 0	29 15 0	...	27-738	...	271 1 8	91 0 0	180 1 8	66-430
Sutherland	386	2,297 0 31	2,579 3 27	5,686	10,259	1,291 9 6	1,256 16 5	34 13 1	...	2-683	...	1,658 17 8	1,192 13 11	466 3 9	28-102
Caithness	3	72 2 -	- - -	1,772	...	42 10 0	31 5 0	11 5 0	...	26-470	...	118 6 3	46 10 0	71 16 3	60-704
Shetland	1	7 1 -	1 3 31	297	...	5 5 0	3 4 0	2 1 0	...	39-047	...	13 4 6	9 0 0	10 4 6	53-185
Total,	1,012	6,990 2 31	6,884 3 32	34,836	13,956	5,309 17 5	4,146 11 6	1,162 5 11	...	21-893	...	10,911 0 3	3,931 3 9	6,979 16 6	63-970

APP. E—TABLE showing, according to COUNTIES and ESTATES, the TOTAL NUMBER of HOLDINGS dealt with, the AGGREGATE AMOUNT of the FAIR RENTS fixed, and the AVERAGE FAIR RENT of each HOLDING.

Estate.	Number of Holdings.	Aggregate Amount of Fair Rents.	Average Fair Rent.
(1.) COUNTY OF ORKNEY.		£ s. d.	£ s. d.
Eday (H. C. Hebden)	1	2 15 0	2 15 0
Melsetter (J. G. M. Heddle)	20	194 5 0	9 14 3
Massater (Miss Turnbull Stewart)	18	106 16 0	5 18 8
Smiddybanks (Henry Banks)	1	9 0 0	9 0 0
Serrigar (William Dennison)	1	1 5 0	1 5 0
Leakage (John Thomson)	1	1 10 0	1 10 0
Zetland (Marquis of Zetland)	124	504 6 0	4 1 4
Woodwick, North Ronaldshay (John Traill)	53	300 18 0	5 13 6½
Balfour and Trenaby (Lt.-Col. J. W. Balfour)	1	1 15 0	1 15 0
Clouston (Mrs Searth or Macrae)	1	2 0 0	2 0 0
Grameshall (A. Sutherland Græme)	1	11 10 0	11 10 0
Rousay (Lieutenant-General Burroughs)	2	6 0 0	3 0 0
	224	1,142 0 0	5 1 11½
(2.) COUNTY OF ARGYLL.			
Duror (W. Macalpine Leny)	3	61 0 0	20 6 8
Appin (Appin Trustees)	5	37 0 0	7 8 0
Airds (Robert Macfie)	3	42 0 0	14 0 0
Lochnell (R. Watson, Trustee)	56	308 19 0	5 10 4
Ferry Park (J. S. M'Caig)	1	8 0 0	8 0 0
Glenceoe (A. H. Ballingal, Trustee)	30	126 5 0	4 4 2
Ardgour (Tutors of A. J. H. Maclean)	15	64 12 0	4 6 1½
Conaglen (Earl of Morton)	47	160 16 0	3 8 5
Sunart (Sir R. S. Riddell)	79	258 16 9	3 5 6½
Breadalbane (Marquis of Breadalbane)	1	12 0 0	12 0 0
Innistrynich (W. C. Muir)	1	8 10 0	8 10 0
Cumlodden (Lady Campbell)	2	15 10 0	7 15 0
Inverneill (Captain Duncan Campbell)	1	3 0 0	3 0 0
Ross ()	1	7 0 0	7 0 0
Castleton (R. C. G. Campbell)	4	33 7 0	8 6 9
Stonefield (C. G. P. C. Campbell)	4	26 0 0	6 10 0
Torrisdale (Colonel C. Buchanan)	5	33 13 0	6 14 7
Kildalton (Executors of John Ramsay)	18	142 16 0	7 18 8
Islay (Charles Morrison)	1	20 5 0	20 5 0
Sunderland (James Smith)	1	6 0 0	6 0 0
Cladville (Mrs Baker)	9	60 10 0	6 14 5½
	287	1,430 19 9	4 19 8½
(3.) COUNTY OF INVERNESS.			
Raasay (Mrs Wood)	1	2 13 0	2 13 0
Macleod (Macleod of Macleod)	39	90 10 4	2 6 5
Glendale (Trustees of Rev. H. A. Macpherson)	2	6 1 0	3 0 6
Husabost (Nicol Martin)	1	1 15 0	1 15 0
North Uist (Sir J. C. Orde, Bart.)	1	2 0 0	2 0 0
Harris (Trustees of Sir E. H. Scott, Bart.)	47	101 17 0	2 3 4
	91	204 16 4	2 5 0
(4.) COUNTY OF ROSS AND CROMARTY.			
Gairloch (Sir K. S. Mackenzie, Bart.)	7	51 10 0	7 7 1½
Ben Damph (Earl of Lovelace)	13	26 0 0	2 0 0
	20	77 10 0	3 17 6
(5.) COUNTY OF SUTHERLAND.			
Sutherland (Duke of Sutherland)	386	1,256 16 5	3 5 1½
(6.) COUNTY OF CAITHNESS.			
Ratter (Trustees of J. C. Traill)	1	9 10 0	9 10 0
Stemster (Alexander Henderson)	1	4 10 0	4 10 0
Dunbeath (W. S. Thomson-Sinclair)	1	17 5 0	17 5 0
	3	31 5 0	10 8 4
(7.) COUNTY OF SHETLAND.			
Garth (Major T. M. Cameron)	1	3 4 0	3 4 0

APP. F.—TABLE showing, according to COUNTIES, the TOTAL NUMBER of HOLDINGS dealt with, the AGGREGATE AMOUNT of the FAIR RENTS fixed, and the AVERAGE FAIR RENT of each HOLDING.

County.	Number of Holdings.	Aggregate Amount of Fair Rents.	Average Fair Rent.
		£ s. d.	£ s. d.
Orkney	224	1,142 0 0	5 1 11½
Argyll	287	1,430 19 9	4 19 8½
Inverness	91	204 16 4	2 5 0
Ross and Cromarty	20	77 10 0	3 17 6
Sutherland	386	1,256 16 5	3 5 1½
Caithness	3	31 5 0	10 8 4
Shetland	1	3 4 0	3 4 0
	1,012	4,146 11 6	4 1 11½

APPENDIX G—SPECIAL ORDERS.

(1) COUNTY OF ORKNEY.

[A] SUCCESSION BY A YOUNGER SON—CASE OF MRS GEORGE SHEARER, MANSBOAT, EDAY.

Mrs George Shearer, Mansboat, Eday, the Estate of H. C. Hebden, applied to have a Fair Rent fixed, but died before her Application was heard. James Shearer, a younger son, was entered as crofter in her stead, upon a renunciation by the nearer heirs in his favour. The following is the Order pronounced :—

“ EDINBURGH, 27th January 1893.

“The Commissioner having resumed consideration of this Application, together with the documents marked D/205, E/205, and F/205, Finds and Declares that John Shearer, David Shearer, and Mary Ann Shearer, all children of the deceased John Shearer, who was eldest son and heir-at-law of the deceased Mrs George Shearer, have renounced all right of succession competent to them, in respect of the holding at Mansboat, in favour of James Shearer, a younger son of the said deceased Mrs George Shearer: And Finds and Declares that the said James Shearer is a crofter in respect of the said holding under and in terms of the Act.*

(Signed)

“ P. B. MACINTYRE.”

[B] CASE OF WILLIAM GUTHRIE, BREAKDALE, TANKERNESS.

The landlord, W. D. Baikie of Tankerness, lodged an Application to have it declared that the said William Guthrie was not a crofter, in respect his holding at Breakdale had been let to him during his continuance in the employment of the landlord as a game-watcher, and was therefore struck at by Section 33 of the Act. The Application was dismissed, and the following is the Order dealing therewith, viz.:—

“ EDINBURGH, 29th March 1893.

“The Commissioners having resumed consideration of this Application, Find that the applicant has failed to establish in point of fact that the holding, occupied by the respondent at Breakdale was let to him during his continuance in any office, appointment, or employment of the landlord, or that the respondent otherwise comes under the scope of Section 33 of the Act: Therefore dismiss the Application: Find the applicant liable in expenses: Modify these to the sum of 10/6, and decern.

(Signed)

“ DAVID BRAND.
“ P. B. MACINTYRE.”

“Note.—The circumstance that the respondent is employed as a game-watcher does not have the effect of taking his case outwith the Act, unless it could be shown that his holding had been let to him during his continuance in the said employment, but the applicant has not succeeded in establishing this as matter of fact.

(Initialed)

“ D. B.
“ P. B. M.”

* See App. A (1), page 2, No. 2.

[C] SUB-TENANCY—(a) CASE OF JANE SUTHERLAND OR THOMSON, CASTLEWELL, FLOTTA.

Jane Sutherland or Thomson, residing at Castlewella, Flotta, on the Estate of the Earl of Zetland, applied to the Commission under an Application bearing to be by her and Samuel Sutherland, as joint tenants in the said holding, to have a Fair Rent fixed therefor. It was objected at the hearing that the applicant was a sub-tenant; that the said Samuel Sutherland was sole tenant of the said holding, and had already agreed under Section 5 as to the rent to be paid for same. This contention was upheld, and thereafter the Commissioner pronounced the following Order dismissing the Application:—

“KIRKWALL, 11th July 1893.

“The Commissioner having considered this Application, Finds that the applicant, Samuel Sutherland or Thomson, is sole tenant under the respondent of the holding specified in the Application: Finds that the other applicant, Jane Sutherland or Thomson, is not a tenant under the respondent, but is a sub-tenant of the said Samuel Sutherland, and therefore not a crofter within the meaning of the Act, having regard to the decision of the Supreme Court, *I. C. Livingstone v. Beattie*, 28 S.L.R., p. 518: Finds that the said Samuel Sutherland has already agreed with the respondent under Section 5 of the Act: Accordingly dismisses the Application: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

(b) CASE OF MAGGIE IRVINE, NEW BRECK.

In this Application to have a Fair Rent fixed, by Maggie Irvine, New Breck, the property formerly of William Sinclair Balfour, and now of George Balfour, the following Order was issued:—

“DINGWALL, 2nd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, Finds that, at the passing of the Act, the Farm of Breck, Rendall, Orkney, was occupied and possessed by Mr George Balfour, son of William Sinclair Balfour, to whom he paid a rent of £70 per annum as tenant: Finds that the applicant was at the said date a sub-tenant of the said George Balfour at New Breck: And Finds that this state of matters continued up till the death of the said William Sinclair Balfour on 11th March 1890: On these facts, Finds that the applicant was not a crofter at the passing of the Act: Therefore, having regard to the decision of the Court in the case of *Livingstone v. Beattie*, 19th March 1891, 28 S.L.R., p. 518, refuses the Application as incompetent: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

[D] JOINT TENANCY—CASE OF WILLIAM KELDAY AND PETER KELDAY, GREENSPOT, NORTH RONALDSHAY.*

In this case an Application was lodged by William Kelday, as sole tenant of the holding of Greenspot, North Ronaldshay, the Estate of John Traill of Woodwick, to have a Fair Rent fixed therefor. Objection was taken to the Application in this form, in respect it was alleged by the respondent, and by Peter Kelday, who also appeared at the hearing, that the latter was a joint tenant in the said holding, along with the said William Kelday. Thereafter a Joint Minute was lodged for parties embodying an arrangement whereby it was agreed that the said William Kelday and Peter Kelday should be declared joint tenants in the holding of Greenspot aforesaid, and withdrawing the objection previously stated to the Application. The Application was thereupon amended in terms of the said Joint Minute, and the following Order issued:—

“KIRKWALL, 11th July 1893.

“The Commissioner having resumed consideration of the Application, R.N. 9/291, together with the Joint Minute for the respondent and for the applicant, William Kelday, and for Peter Kelday, marked R.N. 9a/291, Finds it unnecessary to deal with the claim by the said Peter Kelday to be deemed joint tenant in the holding known as Greenspot, along with the applicant, and objections thereto, and to the Application adduced at the hearing, in respect these questions have been superseded by the terms of the said Joint Minute: Interpones authority thereto: Finds and Declares, in terms thereof, that the said William Kelday and Peter Kelday are joint tenants in the said holding: And Amends the Application by substituting ‘William Kelday and Peter Kelday’ for ‘William Kelday.’

(Signed)

“W. HOSACK.”

[E] NON-RESIDENCE—CASE OF JOHN THOMSON, PECKHOLE, NORTH RONALDSHAY.†

John Thomson lodged an Application to have a Fair Rent fixed for his holding of Peckhole, North Ronaldshay, the property of John Traill of Woodwick. Objection was taken to the same, on the ground

* See App. A (1), page 9, No. 148.

† See App. A (1), page 10, No. 156.

that the applicant did not reside upon the holding in respect of which the Application was made. After hearing the evidence led in support of this objection, and made an inspection of the subject, the Commissioner issued the following Order and Note:—

“KIRK WALL, 11th July 1893.

“The Commissioner having heard parties, and considered the Minute of Objections for the respondent marked 17/291, Repels the said objection: Sustains the Application as competent: And Finds and Declares that the applicant, John Thomson, Peckhole, is a crofter within the scope and meaning of the Act.

(Signed) _____

“W. HOSACK.”

“Note.—Without going into detail the Commissioner may simply say that in his judgment the objection taken is much too narrow.

(Initialed) _____ “W. H.”

[F] NORTH RONALDSHAY—RESERVATION IN FAVOUR OF LANDLORD.

John Traill of Woodwick, proprietor of North Ronaldshay, sought to have reserved to him from the crofter lands of the latter 1 acre, or thereby, outwith the sea-wall and in proximity of the Lighthouse, of the common pasture of 271 acres, for the use of the Admiralty, or others, in erecting a signal station thereon. A joint minute was lodged for parties interested, consenting to the said petition being granted. Thereafter the following Order making reservation accordingly was issued, viz.:—

“KIRK WALL, 11th July 1893.

“The Commissioner having considered this Application, together with the Joint Minute marked 23/291, Reserves to the respondent, John Traill, the right to 1 acre of the common pasture, without the sea-wall (extending to 271 acres), in the proximity of the North Ronaldshay Lighthouse, for the erection thereon of a signal station, with power to the respondent to fence in the said 1 acre of ground which shall thereupon cease to form part of the said common grazing, and become the exclusive property of the respondent.

(Signed) _____

“W. HOSACK.”

[G] RIGHT OF WAY—CASE OF MRS THOMAS TULLOCH, GREENWALL, NORTH RONALDSHAY.*

A right of way or access was reserved to Mrs Tulloch over a portion of waste ground possessed and occupied by Hugh Tulloch, and intersecting her holding—right of grazing being reserved to the said Hugh Tulloch, all as set forth in the following Order:—

“KIRK WALL, 11th July 1893.

“The Commissioner having resumed consideration of this Application, Finds and Declares that the applicant, Mrs Thomas Tulloch, has a right of access to the public road from her dwelling-house and steading over the waste ground between her said dwelling-house and steading and the land composing her holding, and to the said land: Reserves to Hugh Tulloch a right of grazing over the said waste ground, but not to the prejudice or injury of the said applicant's right of access as hereby found and declared.

(Signed) _____

“W. HOSACK.”

[H] CASE OF THOMAS TULLOCH, PURTABRECK, NORTH RONALDSHAY—WIFE ALLEGED TENANT.†

Thomas Tulloch lodged an Application to have a Fair Rent fixed for the holding of Purtabreck, North Ronaldshay. Objection was taken to the competency of the same, on the ground that the said Thomas Tulloch had ceased to be tenant of the said holding; that he had renounced his right in the same to the respondent, John Traill of Woodwick, who had in turn let the holding to Mrs Tulloch, the applicant's wife, and who, it was argued, was now the tenant thereof. This objection was repelled, and the following Order issued:—

“KIRK WALL, 11th July 1893.

“The Commissioner having resumed consideration of the Application by Thomas Tulloch, No. 12 hereof, together with the Minute of Objections for the respondent marked 12/291 (No. 13 of Inventory), and whole parole and documentary evidence adduced, Finds that the Applicant is a crofter in respect of the holding at Purtabreck: Therefore Repels the objections taken, and Sustains the competency of the Application.

(Signed) _____

“W. HOSACK.”

“Note.—The Commissioner is inclined to think that the various proceedings and arrangement with Mrs Tulloch disclosed in the evidence were entered into mainly for the purpose of obtaining

* See App. A (1), page 9, Nos. 141, 142.

† See App. A (1), page 10, No. 151.

payment from her of certain arrears of rent due upon the holding; but at the same time her husband, the applicant, never legally ceased to be tenant and occupant of the holding, nor did his wife, Mrs Tulloch, become joint-tenant with him. Upon the whole matter, accordingly, and though the case is attended with some peculiarity, the Commissioner has arrived at the conclusion set forth in the above Order.

(Initialed)

"W. H."

[I] CASE OF SAMUEL L. SCOTT, REDLAND.

In this Application by Samuel L. Scott to have a Fair Rent fixed for the holding occupied by him at Redland, the property of James Harvey, objection was taken to the competency of the same, in respect the applicant paid no money rent for the said holding. This contention was upheld, and the following Order pronounced, viz:—

"DINGWALL, 3rd August 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Finds it proved that the applicant does not pay any money Rent: Finds, therefore, that he is not a crofter within the scope and meaning of the Act: Accordingly, Finds the Application incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

"W. HOSACK."

[K] ISLAND OF NORTH RONALDSHAY—PASTURE RIGHTS.

The common or shore pasture* of the Island of North Ronaldshay, the property of John Traill of Woodwick, extending to 271 acres or thereby, is shared in by the whole crofters and others of the various holdings enumerated in the sub-joined Schedule (which was lodged at the hearing of the Applications), in the proportions shown therein by the number of sheep stated opposite the name of each person. Those marked with an asterisk were not dealt with by the Commission.

The following is the Schedule referred to:—

STATEMENT showing Number of Sheep which Tenants on Estate of North Ronaldshay, the Property of Mr John Traill of Woodwick, are entitled to keep on the Shore Pastures outside the Dykes.

I.—Holdings of £30 and under.

Name of Holding.	Name of Occupier.	Number of Sheep.
*Bewan,	Widow Jean Thomson,	5
Rue,	John Tulloch,	25
Vincuin,	William Swanney,	25
*Dennishill,	John Thomson,	25
Scottigar,	Sibella Tulloch,	25
Grind,	William Thomson,	25
Sholtisquoy,	Peter Muir,	25
Westhouse,	William Scott,	25
Senness,	Widow Mary Cutt,	25
Sandback,	John Tulloch,	25
Quoybanks,	John Thomson,	25
Conglabist,	Thomas Thomson,	25
Lochend,	John Tulloch,	25
Garsow, No. 2,	Widow Jessie Tulloch,	25
Garsow, No. 1,	Thomas Tulloch,	25
Midhouse,	Hugh Muir,	5
Niven,	Thomas Muir,	5
Senness,	Thomas Tulloch, Merchant,	5
*Netherbreck,	Mrs Margaret Cutt,	6
Parkhouse,	Mrs Mary Cutt,	5
Westness,	Mrs Jessie Tulloch,	60
Nether Linna,	John Swanney,	50
Upper Linna,	John Muir,	50
Brigg,	James Muir,	21
Burray,	John Muir,	21
Upper Cott,	William Swanney,	40
Longar,	William Tulloch,	42
Ancum,	Charles Tulloch,	40

* See App. A (1), page 9.

I.—Holdings of £30 and under—*continued*.

Name of Holding.	Name of Occupier.	Number of Sheep.
North Manse,	John Scott,	30
*Verracott,	William Swanney,	24
*Antabreck,	Donald Thomson,	40
Trebb,	John Kelday,	10
Purtabreck,	Thomas Tulloch,	40
Sangar,	John Swanney,	25
North Gravity,	John Swanney,	20
South Gravity,	Mary Thomson,	6
Greenspot,	William Kelday and Peter Kelday,	21
Waterhouse,	William Muir,	20
Phisligar,	Alexander Tulloch,	27
*Scotsha',	Thomas Muir,	20
Barrenha',	Mrs Ann Tulloch,	6
*Milldam,	Peter Cutt,	12
Cauldhame,	John Cutt,	24
*Roadside,	Mrs Mary Scott,	6
Holm,	Mrs Mary Swanney,	20
*Hooking,	Thomas Tulloch,	60
Peckhole,	John Thomson,	60
Howatoff,	Thomas Thomson,	30
Cursitter,	Mrs Sarah Tulloch,	12
*Cavan,	Stewart Swanney,	8
Garbo,	Mrs Mary Cutt,	18
Gateside,	Thomas and Neil Tulloch,	20 (or 10 each.)
N. and W. Newbigging,	William Swanney,	45
Nessmuir,	Samuel Swanney,	15
Claypows,	William Swanney,	30
North Ness,	Thomas Tulloch,	20
*South Ness,	Martin Tulloch,	24
Stenabreck,	John Cutt,	12
Bredisness,	James Cutt,	12
Viggay,	William Swanney,	15
Greenwall,	Hugh Tulloch,	50
Greenwall,	Mrs Mary Tulloch,	10
Breckan,	Robert Cutt,	10
Cruesbreck,	William Tulloch,	70
*Kirbest,	John Tulloch,	70
		1647

List of Holdings over £30 rent, and others who are not Crofters but entitled to have Sheep outside Dyke.

Name of Holding.	Name of Occupier.	Number of Sheep.
*Holland,	James Angus,	300
*Howar,	Mrs Seatter,	118
*(Mills) Millhouse,	John Thomson,	80
*Sugarhouse,	Sibella Tulloch,	6
		504
	Total,	2151

* Those marked with an asterisk are non-applicants.

(2) COUNTY OF ARGYLL.

[A] APPLICATION BY SUB-TENANT—CASE OF JOHN LAMONT, RUAIG, TIREE.

John Lamont, Ruaig, Tiree, applied to the Commission to fix a Fair Rent for his holding. The applicant, it appeared, held under, and paid rent to, Duncan Macinnes, while the lands so occupied by him were the property of His Grace the Duke of Argyll. Objection was taken to the Application, on the ground that the applicant was a sub-tenant, and therefore not a crofter within the meaning of the Act. The following Order was issued:—

“EDINBURGH, 28th March 1893.

“The Commissioner having resumed consideration of this Application, dismisses the same as incompetent: Finds no expenses due to or by either party.

(Signed)

“DAVID BRAND.”

"*Note.*—It appears from the applicant's statement that his immediate landlord is Duncan Macinnes, Ruaig, who in turn holds under His Grace the Duke of Argyll as proprietor. Accordingly the present Application is ruled by the case of *Livingstone v. Beattie*, 19th March 1891, 28 S.L.R., p. 518, where it was decided by the Supreme Court that sub-tenants are not crofters. As the present applicant is a sub-tenant he is by that decision excluded from the provisions of the Act.

(Initialed)

"D. B."

[B] NON-RESIDENCE—(a) CASE OF MARY RANKINE AND OTHERS,* TIGHPHUIRST, GLENCOE.

Mary Rankine, Donald Macdonald, Donald Rankine, Duncan Macinnes, and John Rankine, Tighphuirst, on the Estate of Glencoe, belonging to A. H. Ballingal, W.S., trustee for Mr and the late Mrs Burns Macdonald of Glencoe, applied to the Commission to fix Fair Rents for their holdings. At the hearing objection was taken to the Applications, on the ground that the applicants did not reside on their holdings, and were thus excluded from the benefits of the Act by Section 34. After inquiry and inspection, the following Order was issued repelling the objection:—

"KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the objections for the respondents marked 2, 3, 5, 6, and 7 of Inventory, Finds that the applicants, Mary Rankine, Donald Macdonald, Donald Rankine, Duncan Macinnes, and John Rankin, reside on their respective holdings within the scope and meaning of the Act, and are therefore crofters under the same: Accordingly Repels the objection stated to each, and Sustains the competency of their Applications.

(Signed)

"W. HOSACK."

[C] CASE OF DUNCAN M'CALL, AIRDS, TAYNUILT.†

Duncan M'Call, Airds, on the Estate of Lochnell, applied to the Commission to fix a Fair Rent for his holding at Airds, belonging to Lochnell's Trustee, and also for his holding at Ferry Park, belonging to John Stuart M'Caig. At the hearing objection was taken that the applicant did not reside on the holding at Airds, and was not entitled to the benefits of the Act *quoad* that croft. After inquiry and inspection, the following Order was issued sustaining the objection and dismissing the Application in so far as applicable to the holding at Airds:—

"DINGWALL, 2nd August 1893."

"The Commissioner having heard parties, and considered the note of objections for the respondent Richard Watson, Trustee for Archibald Argyll Lochnell Campbell of Lochnell, Sustains the first objection, to the effect that the applicant does not reside on his holding at Airds, Estate of Lochnell, within the meaning of Section 34 of the Act: Therefore dismisses the Application in so far as made with reference to the said holding at Airds, but *quoad ultra* Sustains the same in regard to the holding at Ferry Park.

(Signed)

"P. B. MACINTYRE."

"*Note.*—It appears that the applicant does not reside upon those subjects on the Lochnell Estate above mentioned, but resides on a holding at Ferry Park, two miles distant, and situated upon the Estate of Mr John Stuart M'Caig. In these circumstances there is no doubt but that the objection stated as aforesaid is well founded, and accordingly effect has been given to the same, and the Application dismissed as to the subjects at Airds.

(Initialed)

"P. B. M."

[D] ENTRY SINCE PASSING OF ACT—CASE OF ROBERT MACINNES, TIGHPHUIRST, GLENCOE.

Robert Macinnes applied to the Commission to fix a Fair Rent for the holding occupied by him at Tighphuirst, on the Estate of Glencoe, the property of A. H. Ballingal, W.S., as trustee infest of the late Mrs Burns Macdonald and husband. Objection was taken on behalf of the said respondent that the applicant had entered into possession of the croft land subsequent to the passing of the Act. The applicant argued that, having obtained possession of the dwelling-house on the holding at Whitsunday 1886, and having arranged with Duncan Macrae, the outgoing tenant, for the possession of the land which, along with the said dwelling-house, comprises the holding, he should be deemed to have got possession of the entire holding as at the foresaid date, and be held to be a crofter within the scope of the Act. The evidence led at the hearings of the Application went to show that the applicant had entered into possession of the dwelling-house as alleged, but that no entry to the lands forming the croft was given till the following term of Martinmas. The objection stated was accordingly sustained, and the Application dismissed. The following Order was issued:—

* See App. A (2), page 20, Nos. 94 to 98.

† See App. A (2), page 18, No. 67.

"KIRKWALL, 11th July 1893.

"The Commissioner having heard parties, and considered the evidence adduced, parole and documentary, Finds by the respondent's letter to the applicant of 10th May 1886 that he accepted the offer made by the applicant of £29 sterling per annum for Tighphuirst House, Glencoe, and one croft to be let therewith: Finds that the entry was to be at Whitsunday 1886, and the rent to be payable half-yearly in advance, commencing at Whitsunday for the half year to Martinmas then next: Finds that by the said letter this acceptance was made dependent on the outgoing tenant, Duncan Macrae, leaving the land of the holding at Whitsunday 1886 instead of Martinmas, up to which term he had the right of occupancy: Finds that the applicant obtained possession of the house as at Whitsunday 1886, and became liable for rent from that time: But Finds that the said Duncan Macrae did not, in point of fact, quit the land till Martinmas 1886, remained tenant thereof, and paid rent for the same, amounting to £4, 10s., by a cheque in favour of the respondent, sent with a letter, dated 3rd June 1886, produced and marked 3Ea/187: Finds that Macrae's tenancy of the said land during that period is further shown by the copy letter, dated 3rd June 1886, from the respondent to him, produced and marked 3Eb/187: Finds, also, from the receipt, dated 3rd June 1886, produced and marked 3c/187, that the said Duncan Macrae sold the hay crop on the croft for that year, and appropriated the proceeds: Finds it also proved that the potatoes on the land were sold by him from time to time in drills to different purchasers, and the proceeds also appropriated: On these facts, Finds that, while the applicant was tenant of the house at Tighphuirst from Whitsunday 1886, the outgoing tenant, Duncan Macrae, continued tenant of the land, reaped the crop thereof, and paid the rent therefor up to Martinmas of that year: Finds, accordingly, that the applicant was not tenant of a holding within the scope and meaning of the Act, as at the passing of the same: Therefore Sustains the objection stated on that ground: Finds the Application incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed) "W. HOSACK."

[E] GARDEN GROUND—NOT A HOLDING WITHIN THE MEANING OF THE ACT—CASE OF JOHN CAMERON, TIGHPHUIRST, GLENCOE.

"John Cameron, Tighphuirst aforesaid, applied to the Commission to fix a Fair Rent for his holding. Objection was taken to the Application on the ground that the subjects occupied by the applicant did not meet the definition of a holding under the Act, in respect they consisted of a dwelling-house and garden ground appurtenant thereto. After hearing evidence, and inspecting the subjects, the Commissioner sustained the said objection, and pronounced the subjoined Order dismissing the application:—

"KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the objection to competency stated for the respondent, and marked c/373, Finds that the dwelling-house occupied by the applicant is of unusual size for a crofter, and consists of 9 or 10 apartments: Finds that the said building was formerly a school, the upper part being occupied by the teacher as a dwelling-house, and latterly as a shop store and dwelling-house: Finds that the ground in the applicant's possession is walled completely round, and is to be deemed as garden ground appurtenant to a house within the scope and meaning of Section 34 of the Act: Therefore Sustains the said objection: Finds and Declares that the applicant is not a crofter, and accordingly dismisses the Application: Finds no expenses due to or by either party.

(Signed) "W. HOSACK."

[F] QUARRYMAN'S HOUSE AND GROUND NOT A HOLDING—(a) CASE OF WIDOW LILY MACCOLL, TIGHPHUIRST, GLENCOE.

In this case the applicant, Lily Maccoll, is the widow of a slate quarrier, who was in his lifetime employed at the slate quarries on the Estate of Ballachulish, which estate is presently in possession of heritable creditors—the quarry being let to a tenant. The applicant applied to have a Fair Rent fixed for the subjects occupied by her, and contended that these formed a holding in the sense of the Act. The respondent objected to the application that the said subjects were not a holding contemplated by the Act. That, along with others, they were used as dwellings for the workmen engaged at the said quarries; and that the Application was incompetent. Evidence was led to show that the applicant had merely been continued in possession of the house and garden formerly occupied by her late husband in virtue of his position as quarryman engaged at the said quarries. It was alleged, moreover, that the land attached to the said dwelling-house was not croft land but garden ground appurtenant thereto. The Commissioner held both these contentions well founded, and dismissed the Application. The following is the Order:—

"KIRKWALL, 11th July 1893.

"The Commissioner having heard parties, and considered the objection for the respondents, Finds that the husband of the applicant, who died in the course of the year 1886, was a workman engaged in the Ballachulish quarries, and paid a wage from time to time: Finds that he occupied a dwelling-house near the quarries, and that the tenure depended upon the continuance of his employment at the said quarries: Finds that his rent was paid every six weeks or otherwise at the termination of some similar period: Finds that since his death the rent has been paid by the applicant at

similar short periods: Finds, therefore, that the applicant is not a yearly tenant of her holding in Tighphuirst within the scope and meaning of Section 34 of the Act: Finds, further, that the land occupied by the applicant is of very small extent, and is of the nature of garden ground appurtenant to her dwelling-house within the meaning of Section 34 of the Act: Therefore Sustains the objection taken on these grounds in the Minute for the respondents, the Trustees of David Hunter and others, marked A/478, and dismisses the Application as incompetent: Finds no expenses due to or by either party.

(Signed)

"W HOSACK."

(b) CASE OF MARGARET MACINNES, TIGHPHUIRST, GLENCOE.

The same objection was taken to this Application, as in the former case, and an Order in similar terms was issued dismissing the Application.

[G] CASE OF WIDOW MARY MACINNES, UPPER CARNOCH, GLENCOE—CANNOT BE A CROFTER IN RESPECT OF EACH OF TWO SEPARATE HOLDINGS.

The applicant, Widow Mary Macinnes, died since the Application to fix a Fair Rent for her holding at Upper Carnoch, the property of the said A. H. Ballingall, as Trustee foresaid, had been lodged with the Commission. John Macinnes, eldest son and heir-at-law of the said deceased, appeared, and sought to be entered as applicant and crofter in her stead. The said John Macinnes, it appeared, was also a crofter in respect of another holding, No. 26A Upper Carnoch. Objection was taken to his claim on the ground that he could not reside on both holdings, and consequently could not be deemed a crofter in respect of the present holding, unless he elected to give up the one occupied and possessed by him at 26A Upper Carnoch aforesaid. The Commissioner took this view of the matter, and issued an Order calling upon the said John Macinnes to lodge a Minute setting forth which croft he elected to hold under the Act. Thereafter a Minute was lodged, in obedience to said Order, in which it was set forth that he gave up his claim as heir-at-law foresaid, and was to continue in possession of his holding No. 26A Upper Carnoch. The following is the Order:—

"KIRK WALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the objection marked 1/249, Finds that the applicant, Widow Angus Macinnes, died intestate in the year 1891: Finds that her eldest son, John Macinnes, is heir-at-law, and appeared at the hearing, and claimed to be entered as tenant of the holding in succession to his said mother: Finds that the said John Macinnes is a crofter in terms of the Act in respect of another holding occupied and possessed by him at 26A Carnoch: Finds, on a sound construction of the Act, that a person is not entitled to be a crofter in respect of two separate holdings: Before further answer, Ordains the said John Macinnes to lodge with the Sheriff Clerk a Minute within ten days from the date of intimation hereof, stating which croft he elects to hold under the Act: Finds it unnecessary, meantime, to deal with the other objections stated in the said Minute.

(Signed)

"W. HOSACK."

[H]—(a) OBJECTION UNDER SECTION 33, TRADESMAN—FOXHUNTER—CASE OF DONALD MACDONALD, RUARACH, ARDGOUR.*

Donald Macdonald, Ruarach, Ardgour, the property of the Tutors of A. J. Maclean, applied to the Commission to fix a Fair Rent for his holding at Ruarach aforesaid. At the hearing the Application was objected to on behalf of the respondents, under Sections 33 and 34 of the Act, on the ground that the croft was let to the applicant during his continuance in the employment of the landlord as fox-hunter, and that the applicant was accordingly not a crofter within the meaning of the Act. The following Order was issued:—

"KIRK WALL, 11th July 1893.

"The Commissioner having considered this Application, together with the objection for the respondent marked A/652, Finds, in point of fact, that the respondent has failed to prove that the applicant's holding at Ruarach was let to him during his continuance in the employment of the landlord as a fox-hunter: Therefore Repels the objection stated to the competency upon that ground: Finds that the applicant is a crofter within the meaning of the Act, and Sustains the Application.

(Signed)

"W. HOSACK."

"Note.—It would appear that the applicant became a fox-hunter on the Estate of Ardgour about fifty-seven years ago. At that time the Estates of Ardgour and Conaglen formed one possession, and the applicant received a salary or wage of £20 a year. About thirty years ago, or thereby, Conaglen was sold, and thereupon the applicant's wages were allocated between Ardgour and Conaglen in the proportions of £11 payable from Ardgour, and £9 from Conaglen. It would further appear that in or about 1868 the applicant removed from his then holding at Gearradh to his present holding at Ruarach. This, he explains, was done for the sake of education to his children. But the respondent has entirely

failed to make out that entry to the holding at Ruarach, and occupation thereof by the applicant, were made dependent upon his continuance in the employment of fox-hunter. The Commissioner, accordingly, is of opinion that the objection taken fails on the evidence, and therefore it has been repelled, and the competency of the Application sustained.

(Initialed)

"W. H."

(b) CASE OF ROBERT MORRISON, KIRKTOWN, TAYNUILT.

Robert Morrison, Kirktown, Taynult, applied to the Commission to fix a Fair Rent. It was contended on behalf of the respondent, Lochnell's Trustee, that the Application was incompetent, in respect the applicant, who was the estate blacksmith, was a tradesman placed in the district by the landlord for the benefit of the neighbourhood. After inquiry, the Commissioner sustained the said objection, and dismissed the Application. The following Order was issued:—

"KIRKWALL, 11th July 1893.

"The Commissioner having heard parties, and considered the evidence adduced, together with the Note of Objection for the respondent, marked A2/140, Sustains the said objection: Finds and Declares that the applicant is excluded from the provision of the Act under and in terms of Section 33, both his father and himself having been in the position of tradesmen placed in the district by the landlord for the benefit of the neighbourhood, and dismisses the same.

(Signed)

"P. B. MACINTYRE."

"Note.—The Commissioner deems it unnecessary to enter upon a detailed examination of the evidence adduced. He is satisfied, on a careful consideration of the whole, that the objection stated is well founded in point of fact and law.

(Initialed)

"P. B. M."

[I] AGREEMENTS UNDER SECTION 5 OF THE ACT—(a) CASES OF ALEXANDER CAMERON AND WIDOW CATHERINE MACPHERSON, SCOTSTOWN, STRONTIAN.*

Alexander Cameron and Widow Catherine Macpherson, Scotstown, Strontian, applied to the Commission to fix Fair Rents. At the hearing the applicants, and the agent for the respondent, Sir Rodney S. Riddell, Bart., of Sunart, agreed as to the Fair Rents of the respective holdings, and craved the Commission to interpose authority to the Joint Minute containing the agreement between the parties. The following Order was issued:—

"KIRKWALL, 11th July 1893.

"The Commissioner having considered the Applications of Alexander Cameron and Widow Catherine Macpherson, Nos. 5 and 11 hereof, together with the Joint Minutes marked 5/194 and 11/194, Interpones authority to the said Joint Minutes, and fixes the Fair Rents of the applicants respectively as follows, viz.:—Alexander Cameron, £1, 19s. 9d.; Widow Catherine Macpherson, £6: Further, Finds, in accordance with said Minute 11/194, that of the arrears of £13, 2s. 3d. due by the said Widow Catherine Macpherson, the sum of £8, 15s. 3d. is to be paid, and Ordains the same to be paid in two instalments of £4, 15s. 3d. and £4 at Martinmas 1893 and Martinmas 1894 respectively: Reserving also to the applicant, the said Widow, the option of prepaying the whole or any instalment thereof.

* * * * *

(Signed)

"W. HOSACK."

Similar Orders were issued in the following cases on the same Estate:—

- (b) John Simpson, † Anyheilt.
- (c) Ewen Young, † "
- (d) Hugh Macpherson, † "
- (e) Mary Macdonald, ‡ Ardnastaing.
- (f) William Macpherson, § Scotstown.

(g) CASE OF MRS CHRISTINA ROSE AND SARAH MUNRO, BONAWA, LOCHNELL. ||

Mrs Rose and Sarah Munro, Bonawe, applied to the Commission to fix a Fair Rent. At the hearing a Joint Minute was lodged by parties fixing the rent, and craving the Commission to interpose authority thereto. The following Order was issued:—

"DINGWALL, 2nd August 1893.

"The Commissioner having resumed consideration of this Application, together with the Joint Minute for parties marked A/134, Interpones authority thereto, and in terms thereof Fixes and

* See App. A (2), page 24, Nos. 165 and 170.

† See App. A, page 26, Nos. 213, 216, 218.

‡ See App. A, page 27, No. 225.

§ See App. A, page 25, No. 188.

|| See App. A (2), page 18, No. 65.

Determines the Fair Rent to be paid by the applicants at the annual sum of £8 sterling: Finds and Declares that, out of the arrears of £8 due by the applicants as at Martinmas 1892, £6 are imputed as compensation to them for improvements upon their holding: And Finds and Declares that the applicants, by the said Joint Minute, accept the said sum as in full of all claim up to this date in respect of such improvements: Finds that the balance of arrears still remaining due amounts to £2 sterling and no more: Ordains the applicants to make payment of the said balance of £2 at Martinmas 1893: Finds no expenses due to or by either party.

(Signed) "P. B. MACINTYRE."

[K] GRANT OF ADDITIONAL COMMON PASTURE BY LANDLORD UNDER FAIR RENT APPLICATIONS—
(a) TOWNSHIP OF CARNOCH, GLENCOE.

The crofters of the township of Carnoch, Glencoe, the Property of A. H. Ballingal, W.S., as trustee foresaid, applied to the Commission to fix Fair Rents for their holdings. By Minute for parties lodged in the Application (and hereinafter printed as relative to the subjoined Order), the said A. H. Ballingal made offer of, and the applicants accepted, as additional common pasture, the piece of land described in the said Minute, upon the conditions and stipulations therein set forth and which are given effect to in the Order dealing therewith, viz. :—

" KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the Minute for the respondent marked 28/250, Finds that the said respondent has offered to the township of Carnoch a piece of land for the pasturage of cattle, being part of the farm of Croft, situated on the north side of the public road leading from Bridge of Coe to Kingshouse, bounded on the east by the lands of Leac-an-tuim, and shown within the points marked A, B, C, & D, on the tracing from the Ordnance Survey Map, produced with said Minute, extending to 106 acres or thereby, on the following conditions, viz.:—(1) That entry shall be at the term of Martinmas 1893; (2) that the said pasturage shall be enjoyed in common by the whole of the tenants in said township who shall have the same respective interests therein as they at present have in the Carnoch Hill and Shore pasture; (3) that the respondent will, previously to the said term, fence the said land on the terms mentioned in the said Minute; and (4) that, after the fence has been completed, the tenants to undertake the future maintenance thereof: Finds that the applicants have accepted said offer by Minute of Acceptance written therein by their agent, and dated 14th April 1893: Interpones authority to the said Minute: And Finds and Declares that the said grazing of 106 acres or thereby, so far as shared by the crofters in the township of Carnoch (a list of the whole participants in said grazing being annexed to said Minute), forms part of the holdings of the crofters of Carnoch under and in terms of the Act, in the shares or proportions specified in the said Joint Minute, and that the same falls to be taken into consideration in fixing the Fair Rents payable by them under their respective Applications.

(Signed) "W. HOSACK."

Minute for Andrew Hunter Ballingal, of Perth, W.S., as sole Trustee under Discharge and Trust Disposition and Assignment granted by the late Mrs Ellen Caroline Macpherson Burns Macdonald of Glencoe, and her husband, dated the 14th May, and registered in the Books of Council and Session 2nd June 1885.

"Under reference to the Statement made on his behalf at the sitting of the Commission on 10th current, and to the visit paid to the ground on 12th current, the trustee hereby offers to the township of Carnoch a piece of land for the pasturage of cattle, being part of the farm of Croft, situated on the north side of the public road leading from Bridge of Coe to Kingshouse, bounded on the east by the lands of Leac-an-tuim, and shown within the points marked A, B, C, and D on the tracing from the Ordnance Survey Map produced herewith, extending to 106 acres or thereby. The said piece of land is offered on the following conditions :—

"*First.*—Entry shall be at the term of Martinmas 1893.

"*Second.*—The said pasturage shall be enjoyed in common by the whole of the tenants in said township, who shall have the same respective interests therein as they at present have in the Carnoch Hill and Shore pasture. A list of said tenants is annexed hereto.

"*Third.*—The trustee will, previously to said term, fence the land as follows :—The existing march fence at the east side (of 800 yards in length or thereby), to be—subject to the concurrence of the adjoining proprietor—repaired, and to have iron uprights let into stones on the top, with three wires stretched thereon; the remaining three boundaries (of 2550* yards in length or thereby) to be fenced with a Corriemony fence of six wires, with iron uprights and droppers, having two gateways and gates to the said public road; where the fence crosses waterways, the section crossing to be independent of the rest of the fence.

"*Fourth.*—After the said fencing has been completed, the tenants to undertake the future maintenance thereof.

"The trustee respectfully craves the Commission to interpone authority to this Minute, and to

* N. 1000 yards; W. 800; and S. 750—2550 yards.

include in the rents to be fixed for such of the tenants in the annexed list as have applied to the Commission their interests in the pasturage now offered. In respect whereof.

(Signed)

"ARCHIBALD CRAIG,
"156 St Vincent Street, Glasgow.
"Agent for Trustee.

"BALLACHULISH, 13th April 1893."

"OBAN, 14th April 1893.

"I accept the foregoing offer.

(Signed) "J. MACMASTER-CAMPBELL.
"Agent for Crofters."

LIST OF CARNOCH TENANTS.

No.		
4.	Donald Macdonald,	2/53rds.
3.	John Macdonald,	2/53rds.
5.	James Connor,	2/53rds.
2.	Donald Macdonald,	2/53rds.
1.	Angus Kennedy,	2/53rds.
6.	Alexander Macdonald,	2/53rds.
7.	Donald Maccoll,	2/53rds.
8.	Duncan Macdonald,	2/53rds.
9.	Hugh Matheson, now James Connor (land), and Hugh Macdonald (house),	2/53rds.
10.	Duncan Macdonald (now John Macdonald),	2/53rds.
13A.	Alexander Macintyre,	1/53rd.
13C.	John Macdonald,	1/53rd.
13B.	James Macdonald,	1/53rd.
15.	Donald Macinnes (now Widow Catherine Macinnes),	1/53rd.
14.	Samuel Kennedy (now Duncan Kennedy),	1/53rd.
11B.	Donald Macdonald,	1/53rd.
11A.	Widow A. Macinnes (now John Macinnes),	1/53rd.
12A.	Donald Macdonald,	1/53rd.
12B.	Robert Robertson,	2/53rds.
20B.	Donald Mackenzie,	1/53rd.
20A.	Dugald Macinnes,	1/53rd.
18A.	Angus Macdonald,	1/53rd.
18B.	Widow Macdonald,	1/53rd.
19A.	Duncan Macintyre,	1/53rd.
19B.	John Rankine,	1/53rd.
17B.	Mrs Barr,	1/53rd.
17A.	Alexander Maccoll,	1/53rd.
16.	Widow Donald Macdonald (now Donald Macdonald),	2/53rds.
25.	Angus Macdonald (now Mary Macintyre),	1/53rd.
27.	John Rankine,	1/53rd.
26B.	Alexander Macinnes,	1/53rd.
26A.	John Macinnes,	1/53rd.
24B.	Donald and John Macdonald,	1/53rd.
24A.	William Macdonald,	1/53rd.
22B.	Alexander Maclellan,	1/53rd.
22A.	Duncan Macintyre,	1/53rd.
23.	Alexander Macdonald (Ground Officer),	2/53rds.
21B.	John Macdonald (Mamore),	1/53rd.
21A.	John Macdonald (Pensioner),	1/53rd.
21C.	Widow C. Macdonald,	1/53rd.

(b) TOWNSHIP OF TRESLAIG, CONAGLEN.

The Landlord, the Earl of Morton, lodged an Application (form 4) to have Fair Rents fixed for the crofters of the township of Treslaig on his estate of Conaglen. Up to the date of hearing, the crofters and other tenants of Treslaig had only the right of grazing 29 cows on the common pasture of 421 acres, the landlord having the surplus grazing as well as the wintering on the croft land. At the hearing a Joint Minute was lodged for parties, whereby the proprietor, the said Earl of Morton, renounced the right of surplus grazing and wintering in favour of the respondents, the said crofters, under reservation to His Lordship of one fourth of the wintering, being the share or proportion

offerring to three crofts, occupied by tenants other than the respondents, and subject to the condition as to letting the said wintering fully set forth in the following Order:—

“KIRK WALL, 11th July 1893.

“The Commissioner having resumed consideration of this Application, together with the Joint Minute for parties, marked 1/654, Finds, in accordance therewith, that the applicant has renounced and assigned to and in favour of the respondents, the crofters of Treslaig, the right of surplus grazing and wintering formerly reserved and exercised by him over the outrun, common pasture and arable land of the said respondents; but that only to the effect and for the purpose of enabling them to let the same for wintering as a whole to any but not more than one tenant, and upon the condition that the said respondents are not to graze thereon any sheep belonging to themselves either directly or indirectly: Restricts the exercise and enjoyment by the said respondents of the said right accordingly: Finds, further, in terms of said Minute, that the applicant is entitled to one fourth part of the rent obtained for the said wintering as the proportion or share thereof applicable and pertaining to three crofts or holdings occupied by tenants in the said township other than the said respondents: Accordingly authorises and empowers the said respondents to let the said wintering upon the terms and conditions before specified, and ordains them to make payment to the applicant out of any sum or sums which may be received as rent therefor by them, a sum equal to one fourth part thereof as the share or proportion applicable to the said three crofts or holdings as aforesaid: Interpones authority to the said Minute: And Finds and Declares that in fixing the Fair Rents payable by the said respondents due regard has been had to the terms of the arrangement therein set forth.

(Signed)

“W. HOSACK.”

(c) CASE OF ARCHIBALD CRAWFORD INVERAE, LOCH FYNE.*

Archibald Crawford, Inverae, Loch Fyne, applied to the Commission to fix a Fair Rent for his holding at Inverae on the Estate of Cumlodden, the property of Lady Campbell of Garscube. At the hearing under the same, a dispute arose as to the extent of pasture right and access thereto, through a portion thereof having been fenced off, and made to form exclusively part of the Farm of Inverae, presently tenanted by Mr John M'Gilp, farmer there. The respondent, Lady Campbell, while at first not admitting the claim put forward by the said applicant, eventually lodged a Minute conceding it, and proposed to give access to the said pasture by means of gaps or passes made in the fences surrounding the same, as marked on a plan produced therewith as relative to the said Minute. The Commissioner approved the proposed access as sufficient for the requirements of the applicant, in terms of the following Order:—

“EDINBURGH, 15th December 1893.

“The Commissioner having resumed consideration of this Application, together with the Minute for the respondent marked A/627, and relative plan marked B/627, Finds and Declares in terms of the said Minute that the said applicant has a right of grazing on the Farm of Inverae, Loch Fyne, occupied by John M'Gilp, for one cow: Ordains the respondent to make not less than two passes in the fence marked A. B. on the said Plan, so as readily to admit of the applicant's cow grazing on the pasture lying to the south of the said fence, the southern limit of grazing on the east of the road leading from Garvachy to Crarae being the line marked C. D. E. & F. on the said Plan: Further, Ordains the respondent to make similar passes or accesses in the fences marked G. H. & I. J. on the said Plan, to the number of not less than two between G. and H., and one pass between the points I. and J. on the said Plan: Ordains the applicant and respondent to keep the said passes duly open.

(Signed)

“W. HOSACK.”

(d) CASE OF ALEXANDER CRAWFORD, INVERAE, LOCH FYNE.†

Alexander Crawford occupies the holding adjoining that referred to in the immediately preceding case, and under an Application to have a Fair Rent fixed therefor, the same question as to pasture right arose at the hearing. A similar concession having been made in his case by the said Lady Campbell, an Order in like terms to the above was also issued in his Application.

[L] CASE OF JOHN MACFARLANE, LAGLUINE, TARBERT, LOCH FYNE.†

At the hearing of the Application lodged by John Macfarlane to have a Fair Rent fixed for his holding at Lagluine aforesaid, Objection was taken by the respondent, Colin G. P. C. Campbell of Stonefield, the Proprietor, to the Application as made, in respect it sought to include, as part of the said holding, a right to graze one cow on the land known as Tarbert Common, while it was alleged the said right formed no part thereof, on the ground that a separate rent was paid therefor. After hearing evidence on the point, the Commissioner repelled the said objection, and found and declared

* See App. A (2), page 28, Nos. 242 and 243.

† See App. A (2), page 28, No. 253.

that the said cow's grass forms part of the said holding under the Act, as shown by the following Order issued in the case :—

“EDINBURGH, 15th December 1893.

“The Commissioner having resumed consideration of this Application, together with the Minute of Objections for the respondent, and documents produced for the applicant, and having heard parties, Repels the objection for the respondent: Finds the applicant entitled to one cow's grass on the land known as Tarbert Common: And Finds and Declares that the said grazing right forms part of the applicant's holding under and in terms of the Crofters Holdings (Scotland) Act, 1886.

(Signed)

“W. HOSACK.”

“*Note.*—It was contended for the respondent that the cow's grass was held by the applicant apart and under a separate tenure from the rest of his holding, and did not form any part thereof within the scope and meaning of the Act: From the receipts for rents by the respondent's factor, Mr. Hugh Maclean, it is clear that the cow's grass referred to, was treated as part of the applicant's holding at the passing of the Act, and for many years prior thereto down till 1889, when a reduction in the amount of rent would appear to have been made, but there is no evidence to show that the applicant renounced his right to the said grazing in consequence. The Commissioner is therefore of opinion that the objection is not well founded, and has accordingly repelled the same.

(Initialed)

“W. H.”

[M] CASE OF ALEXANDER MACPHERSON, ANYHEILT, STRONTIAN.*

At the hearing of this Application, the applicant, Alexander Macpherson, Anyheilt, sought to have included therein, as part of his holding, a piece of woodland lying near the Established Church, and between the public road and the river at Anyheilt. It was objected by the respondent, Sir Rodney S. Riddell, Bart., the Proprietor, that this portion of ground formed no part of the said holding under the Act, but that there was accorded to the applicant, by a former factor, the gratuitous privilege of cutting grass thereon. The Commissioner, after hearing parties, upheld this view, and issued the following Order dealing with the question, viz. :—

“KIRKWALL, 11th July 1893.

“The Commissioner having considered this Application, Finds that at the hearing the applicant made claim to a piece of ground situated between the Established Church and the river at Anyheilt as being a part of his holding: Finds that the said piece of ground does not form part of the applicant's holding, but that there was gratuitously conceded to him the temporary privilege of cutting grass thereon, this privilege being dependent upon the pleasure of the respondent: Sustains the objection on this head: *Quoad ultra* Sustains the competency of the Application.

(Signed)

“W. HOSACK.”

“*Note.*—The applicant contends that the grazing land in dispute was given to him by the respondent's factor, Mr. Boyd, in 1885, as an adjunct to his holding. This the applicant has failed to prove; and in his Application, lodged on 27th April 1887, no mention is made of the said grazing, and it is not included in the area of his holding given in Schedule B. therein. The said grazing was simply a temporary privilege of cutting grass in summer, and was terminable at the pleasure of the respondent, or his factor.

(Initialed)

“W. H.”

[N] CASE OF ALEXANDER MACPHERSON, ARIUNDLE, STRONTIAN.†

This case is fully explained by the following Order and Note dealing with the Application by Alexander Macpherson, Ariundle, Strontian aforesaid, to have a Fair Rent fixed for his holding, viz. :—

“KIRKWALL, 11th July 1893.

“The Commissioner having resumed consideration of this Application, together with the evidence adduced at the hearing, Note of Objections for the respondent marked E/425, and other documents lodged for parties, Repels the said objections: And Finds and Declares that the applicant is a crofter within the meaning of the Act, and is entitled to have a Fair Rent fixed for his holding: Finds, further, that the applicant has a right of grazing for 3 cows and followers on the Farm of Drumintorran.

(Signed)

“W. HOSACK.”

“*Note.*—The respondent's contention that the applicant's holding at Ariundle is not of the nature or character of a holding contemplated by the Act is in the opinion of the Commissioner not well founded. The Farms of Ariundle and Drumintorran were formerly held as separate farms, but are now held as one, the dwelling-house being situated on the latter farm. The respondent urges in support of his objection that, as the house on Ariundle formed the dwelling-house of that farm, it ought to be available for this purpose in the event of the said farm being let as a subject separate from Drumintorran.

* See App. A (2), page 26, No. 208.

† See App. A (2), page 25, No. 193.

torran. From the evidence led it appears that the applicant has been in possession of the said holding for many years, having commenced his tenancy under a lease for 12 years from Whitsunday 1863, and that prior to his entry to the said subjects they had been occupied, not as the farm-house of Ariundle, but by the then doctor of the district. Indeed, no evidence has been forthcoming of it ever having been let as the farm-house of Ariundle; but, on the contrary, it is deponed that Ariundle Farm has not been let separately from Drumintorran within living memory. From the expiry of the said Lease, in or about 1875, the applicant possessed the said holding from year to year, and continued so to possess and occupy the same at the passing of the Act: Further, it is admitted by the respondent that the right of grazing 3 cows and followers on the said Farm of Drumintorran has been reserved to the said holding under the leases of the Farms of Ariundle and Drumintorran between the respondent and Mr William Kilpatrick, and subsequently Mr Angus Buchanan,—which right of grazing has all along been exercised and enjoyed by the applicant prior to and since the passing of the Act. With regard to the letter of 19th August 1884 produced, it does not affect the character of the holding in any way, and was written at a time when the respondent was in a position to turn the applicant out of the holding if he so desired. But, as this was not done, the applicant continued in the said holding as before, and was occupying the same from year to year at the passing of the Act. Upon the whole matter the Commissioner is satisfied that the Application is competent.

(Initialed)

"W. H."

[O] SUCCESSION—CASE OF MARY MACLEAN OR HILL, OBAN SEIL.*

Mary Maclean or Hill, Oban Seil, applied to the Commission to fix a Fair Rent. At the hearing it was objected on behalf of the landlord, the Marquis of Breadalbane, that she was not the heir-at-law of the preceding tenant, Mrs Catherine Brown or Maclean, who died in December 1886, and the Commissioner was craved to dismiss the Application as incompetent. After inquiry, the Commissioner repelled the objection, and sustained the Application. The following Order was issued:—

"KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the Minute of Objection for the respondent marked 2/402, and whole documents lodged, Finds that Mrs Catherine Brown or Maclean, mother of the applicant, was in occupancy and possession of the holding as a crofter at the passing of the Act, but died in the course of December 1886: Finds that at the date of her death her eldest son, Murdoch Maclean, did not reside on the holding; had not been there for a period of years; and took no effective steps to make good his claim thereto in succession to his mother: Finds that the applicant, Mary Maclean or Hill, resided upon the said holding with her mother from 1884 to the date of her mother's death, and had materially assisted in cultivating and carrying on the same: Finds that since the said date she has continued in the occupancy and possession of the said holding, along with her husband Edward Hill, and has paid certain sums as rent for the same: Finds, in point of law, that the said Murdoch Maclean has lost all right of succession to the said holding under the Act otherwise competent to him: Finds, further, that the applicant, having occupied the holding with her mother prior to the passing of the Act, having since continued to possess the same, and having paid rent from time to time therefor, the respondent is barred from now objecting to the applicant being deemed and taken as a crofter under the Act in respect of the said holding: Therefore Repels the objection stated for the respondent, and Sustains the competency of the Application.

(Signed)

"W. HOSACK."

[P] OBJECTION THAT APPLICANTS NOT CROFTERS BUT COTTARS—CASE OF JOHN MACANSH,† GREENHILL, AND ARCHIBALD MACCALLUM,† TORRISDALE, CARRADALE, CANTYRE.

John Macansh, Greenhill, and Archibald Maccallum, Torrisdale, applied to the Commission to fix Fair Rents for their respective holdings. The respondent, Colonel Carriek Buchanan, objected to the Applications on the ground that the applicants were cottars and not crofters, and further objected to the Application of Archibald Maccallum that the piece of ground within the policies of Torrisdale Castle, extending to 1½ acres, claimed by him, did not form a part of his holding. The Commissioner, repelled the objection taken that the applicants were cottars, but Sustained the objection made as to the said piece of ground, and excluded the same from the Application. The following Order was issued:—

"EDINBURGH, 15th December 1893.

"The Commissioner having resumed consideration of this Application, together with the Minute of Objection for the respondent, that the applicants, John Macansh, No. 6, and Archibald Maccallum, No. 7, are not crofters but cottars, for the reasons therein stated, Repels the said objection on this head: Finds the said applicants, at the passing of the Act, were in possession of the holdings presently occupied by them, including a cow's grass on Lippincorrach Farm, and were paying rent therefor to the respondent: Sustains the said Minute of Objection in so far as it has reference to the plot or piece of ground extending to 1½ acres or thereby, formerly occupied by the said Archibald Maccallum, and held by him from the respondent as a gratuitous privilege: Finds the same is situated within the

* See App. A (2), page 27, No. 240.

† See App. A (2), page 29, Nos. 257, 258.

policies of Torrisdale Castle, and does not form part of the holding of the said applicant under the Act: Moreover, Finds that the said applicant gave up his possession thereof in or about the year 1887: Accordingly reserves the same to the said respondent: Amends the Application of the said Archibald Maccallum by excluding the said piece or plot of ground from the area of the holding as stated therein. *Quoad ultra*, Sustains the Application, and Finds and Declares that the said John Macansh and Archibald Maccallum are crofters within the scope and meaning of the Act.

(Signed) "W. HOSACK."

[Q] CASE OF PETER MACLELLAN, WOODSIDE, ISLAY.*

Peter Maclellan, Woodside, Islay, the property of James Smith, applied to the Commission to fix a Fair Rent for his holding at Woodside aforesaid. Objection was taken by the respondent that the subjects for which Application was made did not constitute a holding within the meaning of the Act. This objection, however, was repelled, and the following Order issued:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the evidence adduced, together with the Minute of Objection for the respondent marked A/223, Finds that at Whitsunday 1881 the applicant entered into possession under the respondent of the house known as 'Woodside Cottage,' and a field attached thereto, at a yearly rent of £14, the respondent undertaking, in consideration of the said rent, to execute certain repairs on the said cottage: Finds that the respondent failed to execute these repairs, and that in consequence the rent was reduced to £6 in 1884 by mutual arrangement, and has continued at that amount since: Finds that the applicant claims that the grazing of a small plantation at or near the said cottage was let to him by the respondent along with the said house and field: Finds it proved that at and previous to the passing of the Act, the said cottage, field, and grazing were occupied and possessed by the applicant from year to year, and that the said cottage, field, and grazing constitute a holding within the scope and meaning of the Act: Finds and Declares that the applicant is a crofter in respect of the said cottage, field, and grazing within the meaning thereof: Therefore Repels the objection, and Sustains the competency of the Application.

(Signed) "P. B. MACINTYRE."

[R] QUESTION WHETHER SUBJECTS APPLIED FOR CONSTITUTE A HOLDING—(a) CASE OF JOHN MACKENZIE, DALNATRAD, APPIN.†

John Mackenzie lodged an Application to have a Fair Rent fixed for the holding occupied by him at Dalnatrad. It was contended for the proprietors of Appin, respondents, that the subjects in respect of which the Application was made did not constitute a holding within the meaning of the Act, but were intended to be reserved for, and had been in use formerly as, a mill and miller's croft. This Objection was repelled, and the following Order issued:—

"KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of this Application, together with the Minute of Objection for the respondents marked A/167, and whole documents lodged, Repels the said Objection under reference to the annexed Note, and Sustains the competency of the Application: Finds and Declares that the applicant is a crofter within the meaning of the Act: Reserves to the landlord the mill and kiln buildings, as also the mill dam and lade, with access thereto.

(Signed) "P. B. MACINTYRE."

"Note.—The Commissioner is of opinion that the objection stated for the respondent is not well founded. By agreement between the applicant and the respondent's factor, dated 29th July and 2nd December 1886, marked c/167, the applicant was relieved of the mill, as from Whitsunday 1886, and the rent was in consequence reduced from £17 to £12. The applicant retained the croft, and was in possession of it at the passing of the Act as a yearly tenant, and was therefore a crofter within its scope and meaning.

(Initialed) "P. B. M."

(b) CASE OF ALEXANDER MACARTHUR, PORTNACROISH, APPIN.‡

In this Application Alexander Macarthur, Portnacroish, applied to the Commission to fix a Fair Rent for his holding at Portnacroish. Objection was taken for the respondents that the subjects in respect of which the Application was made did not constitute a holding within the meaning of the Act. The following Order repelling this objection sets forth clearly the reasons therefor:—

* See App. A (2), page 30, No. 278.

† See App. A (2), page 15, No. 4.

‡ See App. A (2), page 15, No. 5.

"KIRKWALL, 11th July 1893.

"The Commissioner having resumed consideration of the Application of Alexander Macarthur No. 1 hereof, together with the Minute of Objection for the respondents marked F/168, Finds that the workshop or store referred to in the said Minute ceased to be used as such twelve years ago: Finds that the same has since that time been utilised by the applicant as a byre, and was so occupied and possessed by him at the passing of the Act: Finds, therefore, that the said byre forms part of the applicant's holding under and in terms of the Act: Accordingly Repels the objection taken by the respondent, and Sustains the competency of the Application.

(Signed)

"P. B. MACINTYRE."

[S] CASE OF JOHN CAMPBELL, KILLEYAN, OA, ISLAY.

In this case objection was taken for the Executors of John Ramsay, proprietors of the subject in respect of which Application was made by John Campbell, Killeyan, Oa, to have a Fair Rent fixed therefor, that he was not tenant of the same. The applicant, on the other hand, contended that he was a joint tenant with his brother, Duncan Campbell, in the said subjects. Duncan Campbell* also applied to the Commission under a separate Application to fix a Fair Rent therefor. After having heard parties, &c., the Commissioner issued the subjoined Order sustaining the said objection, and dismissed the Application as incompetent:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the Application, together with the objection to competency stated for the respondent, Finds that the holding in question was let to Duncan Campbell as sole tenant, and that the receipts for rent exhibited at the hearing were granted to him as such: Finds that the applicant, John Campbell, is not a joint tenant with Duncan Campbell, and is not in right of the holding either as joint tenant or otherwise: Therefore Sustains the said objection: Finds the Application incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

[T] VILLAGE LOTTERS—(a) CASES OF JOHN CAMERON AND SIXTEEN OTHERS, PORTWEMYSS, ISLAY.

In these Applications by John Cameron and sixteen others, Portwemyss, objection was taken for the proprietor, Charles Morrison, at the hearing, that the applicants were not crofters but village lotters, in respect the subjects occupied by them did not form a holding within the meaning of Section 34 of the Act, and that therefore the Applications were incompetent. The Commissioner issued the following Order sustaining the said objection, and dismissing the Applications accordingly, viz.:—

"EDINBURGH, 15th December 1893.

"The Commissioner having resumed consideration of the conjoined Applications, and made inspection of the houses and other subjects occupied by the applicants, Finds that the Applications are objected to on the ground that the applicants are not crofters within the meaning of the Act: Finds that they dwell in a row or rows of houses in the village of Portwemyss, and that the lands severally occupied and possessed by them are situated at some distance from the said houses: Finds that each applicant pays a separate rent for house and land respectively: Finds that the ground which forms the site of each applicant's holding cannot competently be deemed and taken as part thereof under the Act: Therefore Finds that the subjects occupied by each applicant do not constitute a holding within the meaning of Section 34 of the Act: And, further, that the applicants are not crofters in the sense thereof, but are village lotters: Therefore Finds the Applications incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

'Note.—Reference is made to the Order in the analogous case of tenants in the village of Plockton, Lochalsh, dated 19th December 1891. See Report for that year, page 153.

(Initialed)

"P. B. M."

(b) CASES OF ANGUS FERGUSON AND TWELVE OTHERS, PORTNAHAVEN, ISLAY.

In these Applications by Angus Ferguson and twelve others, Portnahaven, the Property of Mrs Baker, the same objection that the applicants were village lotters was upheld by the Commissioner, and an Order in similar terms to the foregoing was thereafter issued dismissing the Applications as incompetent.

* See App. A (2), page 30, No. 275.

(3) COUNTY OF INVERNESS.

[A] QUESTION OF LEASE--CASE OF WILLIAM MACLEOD, KINLOCH, SKYE.

William Macleod, Kinloch, Skye, on the Estate of Macleod of Macleod, lodged an Application to have a Fair Rent fixed for his holding at Kinloch aforesaid. The Proprietor objected to the competency of the Application on the ground that the applicant was a Lease-holder and not a crofter within the meaning of the Act. This objection was repelled for the reasons fully set forth in the Note appended to the following Order :—

“DINGWALL, 3rd August 1893.

“The Commissioner having considered this Application, together with the objection for the respondent, and documents lodged, Repels the said objection under reference to the annexed Note : And Finds and Declares that the Applicant is a crofter within the meaning of the Act.

(Signed)

“P. B. MACINTYRE.”

“*Note.*—The respondent objects to the competency of the Application on the ground that the applicant was a Lease-holder at the date of the passing of the Act, in respect he took up the succession under an offer, dated 27th November 1834, by the respondent's then factor to the applicant's uncle, Murdoch Macleod, for a Lease for fifty-seven years from Whitsunday 1835, and acceptance thereon by the said Murdoch Macleod of same date. The said Murdoch Macleod died thirty-seven years ago. The Commissioner is of opinion that the respondent has failed to prove that the applicant took up the succession to the said Lease as heir to his said uncle. On the contrary it is deponed by the applicant that he was not heir-at-law to his said uncle, and that the croft was let to him by the factor unconditionally, but that subsequently there were negotiations for a new Lease which eventually fell through. In addition to the above it is to be noticed that, according to the Affidavit by the present factor, produced and marked 1301/B, Murdoch Macleod, the original alleged Lessee, made a will bequeathing the said alleged Lease to his son Norman Macleod, who, however, predeceased him, and that the holding in question continued to be occupied by the Widow of the said Norman Macleod and her children till about the date of the death of the said Murdoch Macleod. It is further stated in the said Affidavit that the applicant who is a son of James Macleod, and nephew of the said Murdoch Macleod, entered into possession of the holding as representing the said Murdoch Macleod or his heirs under the said Lease. In support of this statement no evidence was adduced, and it is inconsistent with the negotiations for a Lease with the applicant previously referred to as well as with the applicant's own deposition. It would also appear that the applicant became bankrupt, and was sequestrated in or about 1861, and that proceedings were taken for his removal in or about 1869, but not followed up. Accordingly, even if the applicant could be taken as holding under Lease at the date of said bankruptcy proceedings those would have had the effect of terminating any such Lease, and of leaving the applicant who continued in possession to come under the scope of the Act at the date when it passed. Upon the whole matter there is no room to doubt that the objection taken is not well founded, and that the applicant is a crofter under and in terms of the Act.

(Initialed)

“P. B. M.”

[B] TOWNSHIP HERD NOT A CROFTER—CASE OF MURDOCH MACRAE, ROSHKILL, SKYE.

This was an Application by Murdoch Macrae, Roshkill, Skye, on the Macleod Estate, to have a Fair Rent fixed for the subjects occupied by him. On a Petition, or Minute, in objection thereto by the crofters of the township of Harlosh, and from the evidence led at the hearing, it was clearly proved that the applicant had acquired right to his holding in virtue of his appointment as herd for the said township, and had held the same rent free down to the year 1890, when a rent of £1 appears to have been exacted by the proprietor, Macleod of Macleod. The Commissioner held it proved that the applicant having obtained and continued the possession of his holding as township herd was therefore not a crofter within the meaning of the Act, and dismissed the Application as incompetent in terms of the following Order :—

“KIRKWALL, 11th July 1893.

“The Commissioner having resumed consideration of this Application, together with the Statement by the respondent's factor marked A/901, also Representations marked A/1288, and Petition marked B/1288 by the crofters of the township of Harlosh, Finds that the applicant was township herd for the crofters of Harlosh for some years prior to the passing of the Act : Finds that in virtue of said office he held the subjects known as the Herd's Park, together with right to graze 2 cows and 10 sheep on the common pasture rent free : Finds that he continued to occupy and possess said land rent free until the year 1890, when he entered into an arrangement with the respondent's factor to pay a rent of £1 for the same : Finds, therefore, that at the date of the passing of the Act the applicant was not a crofter within the meaning of the 34th Section : Accordingly dismisses the Application : Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

[C] CASE OF JOHN MATHESON, TIGHARY, NORTH UIST.

John Matheson, Tighary, on the Estate of North Uist, lodged an Application to have a Fair Rent fixed for the subjects occupied by him, but it transpired at the hearing that he had paid no money rent for same, and had never been recognised as his tenant by the respondent, Sir John Campbell-Orde, Bart. The following Order dismissing the Application fully explains the case:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, together with the objection for the respondent, marked A/962, Finds that about fifteen years ago the late John Macdonald, Factor on the Estate of North Uist, introduced the now deceased John Matheson into the holding at Tighary, then occupied by the late Archibald Maclellan, with a view to the said John Matheson doing estate or other work which should be deemed and treated as part payment of certain debts due by the said Archibald Maclellan to the respondent: Finds that during his life the said John Matheson performed certain work under the said arrangement which was credited to the said Archibald Maclellan: Finds that the said John Matheson remained on the holding up to 9th March 1890, the date of his death; and that since that date the said John Matheson's widow, Flora Macdonald or Matheson, has continued on the said holding: But Finds that the said widow, as applicant in room and place of her said deceased husband, has failed to prove that her said husband was made the tenant of any part of Maclellan's holding, or at any time during his life paid any money rent to the respondent in respect of his said occupancy or possession: Finds, further, that the said widow has failed to prove that she was accepted by the respondent after her said husband's death as tenant in succession to him, or that she at any time made payment of any money rent to the said respondent: Finds, accordingly, that she has not proved that her husband was, or that she herself is, a crofter in respect of the said holding within the meaning of Section 34 of the Act: Therefore Sustains the objection stated for the respondent: Finds the Application incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

[D] SUCCESSION—(a) CASE OF MRS MARGARET MACLELLAN AND COLIN MACLELLAN, HOUGHARY, NORTH UIST.

This was an Application at the instance of the daughter and son-in-law of the deceased John Macdonald to have a Fair Rent fixed for the holding occupied by the latter at Houghary aforesaid. The landlord, Sir John Campbell-Orde, Bart., objected to the Application on the ground that the applicants were not heirs-at-law of the said deceased, and lodged in process a correspondence between himself and Alexander Macdonald, Customs Officer, Lybster, Caithness, the heir-at-law of the deceased, relative to his taking up the said succession. The said Alexander Macdonald stated therein that while he was prepared to take possession, and come and reside upon the said holding, he was unwilling to interfere with arrangements as they then stood until the following Martinmas term. The applicants produced at the hearing a document purporting to be a renunciation by the said Alexander Macdonald in their favour. This the Commissioner decerned invalid, and in respect the said heir-at-law had failed to take possession of the said holding as requested by the landlord, and as undertaken by himself, held he had forfeited his right thereto, and dismissed the Application as incompetent. The following Order sets forth more fully the details:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, Finds that, on or about 11th July 1891, the respondent's clerk wrote to Alexander Macdonald, Customs Officer, Lybster, Caithness, in his character as only son and heir-at-law of his father, the then deceased John Macdonald, crofter, Houghary,* who died in or about the beginning of December 1890, asking him whether he intended to take possession of and come and reside on his said father's croft: Finds that, by letter of 30th May 1891, the said Alexander Macdonald stated as follows in reply:—‘I do intend to take possession of the croft, &c., tenanted by my father at the townland of Houghary. I, however, do not wish to interfere with the existing state of matters until the Martinmas term, when the crops at present in the ground are removed’: Finds that, on 11th July 1891, the respondent's said clerk again wrote to the said Alexander Macdonald stating that he had been entered as tenant of the said holding, and requesting him to come immediately and reside permanently thereon, or otherwise that he would forfeit the tenancy: Finds that by letter of 21st July following the said Alexander Macdonald duly acknowledged receipt of the letter of 11th instant: Finds that the said Alexander Macdonald has failed to enter upon the occupation and possession of the said holding as heir-at-law of his deceased father, and in terms of his said letter of 30th May: But Finds that instead of so doing he has executed the instrument, bearing date 14th October 1891, and marked A/967, whereby he professes to renounce his claim to the tenancy of the said holding at Houghary, and to consent to the names of his sister Margaret Macdonald or Maclellan, and her husband Colin Maclellan, both residing at Tighary, a different township, and at some distance from the holding in question: Finds that there is no evidence to show that the said Margaret Macdonald or Maclellan and Colin Maclellan at any time resided upon the said holding at Houghary, or had any claim thereto in law or equity: Finds that the said instrument of renunciation mentioned as aforesaid is an incompetent proceeding on the part of the said Alexander Macdonald, and cannot receive effect: Finds, further, that the said Alexander Macdonald, having himself failed to take possession and reside thereon, has thereby lost all right of succession arising to him as heir-at-law of his said deceased father: Reserves

* See Report for 1889, page 55, No. 1103.

the claim, if any, to the said holding at Houghary emerging to the person of the next heir: Finds the present Application incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed) "P. B. MACINTYRE."

(b) CASE OF COLIN MACLEAN, CLADDACH KYLIS, NORTH UIST.

The following Order, dismissing this Application, fully explains the peculiarities of the case, viz. :—

"DINGWALL, 3rd August 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Finds that when the succession opened to the croft in question at Claddach Kylis, Ronald Maclean, the eldest son and heir-at-law of the deceased Donald Maclean, crofter, Claddach Kylis,* occupied and possessed a holding at Boreray, distant some miles from the said croft at Claddach Kylis: Finds that the said Ronald Maclean entered upon the partial cultivation and possession of the said holding at Claddach Kylis during the season 1888-89 and 1889-90, but continued to reside on the croft at Boreray: Finds that, on 25th April 1891, the said Ronald Maclean executed a letter of renunciation of the said holding at Claddach Kylis to and in favour of Colin Maclean, his eldest son, who is alleged to have occupied the same for some time previous to the date of the said letter of renunciation: Finds that, on 6th May 1891, the respondent obtained decree of ejection from the Sheriff against the said Ronald Maclean in respect of the said holding at Claddach Kylis: Finds that, on or about 8th August 1891, the said Colin Maclean was ejected from the said holding at Claddach Kylis under the foresaid decree: Finds that, at or about Martinmas term 1891, the said holding at Claddach Kylis was let by the respondent to, and has since been occupied, possessed, and cultivated by, a different person, viz., Angus Maccuish: In respect of the foresaid findings, Finds that the said Ronald Maclean, having elected to continue in the croft at Boreray, had no power under the Act to vest his son, the said Colin Maclean, in right of the holding at Claddach Kylis; and (secondly), in any case the said Colin Maclean, having two years ago been ejected from the said holding at Claddach Kylis, and the place let to and occupied by another person, no holding is left in respect of which the present Application could be entertained: Therefore Finds it to be incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed) "P. B. MACINTYRE."

[E] CASE OF ALEXANDER MACDONALD, KNOCKINTORRAN, NORTH UIST.

Alexander Macdonald, Knockintorran, North Uist, the property of Sir John Campbell-Orde, lodged an Application to have a Fair Rent fixed for his holding, being half the holding formerly occupied by Widow Angus Macdonald, deceased. Objection was taken to the same on the ground that the holding had been already dealt with as one subject under an Application in name of Widow Margaret or Angus Macdonald.† The applicant contended, that, at the time the said Application was dealt with, the said Widow Angus Macdonald was not tenant of the holding, she having died on or about 24th May 1885, before the passing of the Act. Since then he and his brother, Ewen Macdonald, had continued in possession of the said holding—the applicant occupying the one or south half, and the said Ewen Macdonald the other or north half; and having each paid separate rents therefor to the respondent, the applicant was entitled to have a Fair Rent fixed for the said half croft occupied by him. It appeared that the death of the said Widow Angus Macdonald had not been brought under the notice of the Commissioners at the hearing of the foresaid Application, and the award had been issued in name of the said deceased as tenant of the entire holding. The Commissioner held that a Fair Rent having already been fixed for the said entire holding, he was now precluded from dealing with a portion of the same under the present Application, and dismissed the latter as incompetent. The following is the Order:—

"DINGWALL, 3rd August 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Finds that the holding in question was formerly occupied by Widow Angus Macdonald, who died on or about 24th May 1885: Finds that on her death the respondent became entitled, as the law then stood, to regulate the succession to the holding: But Finds that the respondent failed to take any step in that direction: Finds that at the passing of the Act the applicant, Alexander Macdonald, occupied the south half croft, and his brother, Ewen Macdonald, the north half croft: And Finds that it was open to them to have pleaded under the Fair Rent Application that, having been there at the passing of the Act, and for many years previously, and having each paid rent to the respondent, they were entitled to be deemed crofters under the Statute: Finds that when the Fair Rent Application came up for hearing in 1887 it was in name of the said Widow Margaret or Angus Macdonald, though then deceased, and no information was conveyed to the Commissioners as to the fact of the decease: Finds that accordingly the said Fair Rent Application was dealt with on the footing that the holding at Knockintorran was in the occupation and possession of a single tenant, and the rent fixed as payable by the said deceased widow; In these circumstances, Finds that the Commissioner cannot go back upon the said procedure, or deal with the holding in question, as in reality two holdings occupied by separate tenants, each possessing under the Act: Therefore refuses the Application. Finds no expenses due to or by either party.

(Signed) "P. B. MACINTYRE."

* See Report for 1886-87, page 61, No. 1037.

See Report for 1886-87, page 58, No. 906.

[F] CASE OF WILLIAM MACINTOSH, BALESHARE, NORTH UIST.

This was an Application by William Macintosh, Baleshare, North Uist aforesaid, to have a Fair Rent fixed for the holding occupied by him, being one-third of the holding at Baleshare, formerly possessed by John Robertson there, who died in or about October 1890. It appeared that the holding had been previously dealt with as one subject, and a Fair Rent fixed therefor under an Application by the said John Robertson.* The applicant failed to prove that the landlord, Sir John Campbell-Orde, had at any time authorised or approved the subsequent division of the said holding. The Commissioner dismissed the Application as incompetent in terms of the following Order:—

“DINGWALL, 3rd August 1893.

“The Commissioner having resumed consideration of this Application, Finds that a Fair Rent Application was lodged in respect of the holding in question by the late John Robertson who died in October 1890: Finds that, under the said Application, the croft was dealt with as one holding occupied by one tenant: Finds that it is now proposed to have the said holding dealt with as divided into three separate holdings, each having a separate tenant: Finds that the applicant has failed to prove that the landlord at any time authorised such a division of the said holding: Therefore refuses the Application as incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

[G] CASE OF JOHN MACLEAN, EBOST, SKYE—FORM 9—EXPIRATION OF INDUCIÆ.

John Maclean, Ebost, lodged an Application, Form 9, under Section 2 of the Act of 1887, in which he craved for a Prohibitory Order *in statu quo* against certain proceedings instituted against him in the Small Debt Sheriff Court, Portree, by the landlord, Macleod of Macleod. The document accompanying the said Application proved to be a Sist for a rehearing under and in terms of the Small Debt Act, the applicant having allowed decree in absence to pass against him on 6th October 1892, for £5, 11s. 9d. of principal and 12s. 1d. of expenses. The Commissioners held that the *induciæ* under the Sist was not *induciæ* within the meaning of the said Section of the Act which applied only to the *induciæ* under the original action, and the applicant having failed to make Application for a Sist within the latter period, they were debarred from making the Order now craved, and dismissed the Application as incompetent. The following is the Order, viz.:—

“EDINBURGH, 24th January 1893.

“The Commissioners having resumed consideration of this Application, together with the Minute for the respondent marked 1311/C, and Affidavit for the applicant marked 1311/D, Find, under reference to the annexed Note, that the Application is incompetent, and accordingly dismiss the same: Find no expenses due to or by either party.

(Signed)

“DAVID BRAND.

“W. HOSACK.

“P. B. MACINTYRE.”

“Note.—The Order of 14th December 1892 was issued ‘under reservation of the whole pleas of parties as to competency or otherwise;’ and an opportunity having been afforded by the said Order to the applicant, of stating his pleas on the question of competency, if he had any, it is now necessary to dispose of that question. By the Crofters Holdings (Scotland) Act, 1887, 50 & 51 Vict. cap. 24 Section 2, it is provided, *inter alia*, that any Application under that section shall be made within the following periods,; (2) ‘in the case of proceedings instituted after the passing of this Act at any time before the expiration of the *induciæ* in the action.’ The point for disposal here is whether the respondent, having obtained decret and sentence before the Sheriff on 6th October 1892, under a complaint or proceeding under the Small Debt Act for £5, 11s. 9d. of principal, and 12s. 1d. of expenses, and no Application having been made for a Prohibitory Order under the said Act of 1887, it is competent for the applicant, on obtaining a Sist in common form on 28th November 1892, to make Application for such an Order under that Act, within the *induciæ* of the Sist, viz., by or before 8th December 1892. In other words, can the provisions of the 2nd Section of the Act of 1887 be held to apply to proceedings under a Sist? The Commissioners are of opinion that they cannot. The statutory words “the *induciæ* in the action” mean the *induciæ* in the original action, and not the *induciæ* in the Sist. The present Application accordingly stands dismissed.

(Initialed)

“D. B.

“W. H.

“P. B. M.”

(4) COUNTY OF ROSS AND CROMARTY.

A] CASE OF HEIRS OF FINLAY MACKENZIE, FERNMORE, APPLECROSS.

The landlord, Lord Middleton, lodged an Application (Form 4), to have Fair Rents fixed for holdings on the Estate of Applecross, bearing to be occupied by various respondents, and, *inter alios*, “the heirs of Finlay Mackenzie,” in respect of the holding at Fernmore aforesaid: Farquhar Mackenzie, second son of the said deceased Finlay Mackenzie, appeared at the hearing, and claimed to be entered as suc-

* See Report for 1886-87, page 63, No. 1094.

cessor in the holding. The applicant took exception to this claim being entertained on the ground that he was not heir-at-law of the said deceased, but stated that he would consent to the claimant being received if he lodged in process a renunciation in his favour by John Mackenzie, eldest son and heir-at-law, of the latter's whole rights in the said holding. The Commissioner by Order, dated 20th June 1892, ordained the said claimant to lodge such renunciation within one calendar month thereafter. This Order, he failed to obtemper, and the Commissioner again on 18th November 1892 called upon the said claimant to lodge same. As this was not done, and no explanation was offered, the Commissioner issued the following Order refusing the claim of the said Farquhar Mackenzie, and dismissing the Application:—

“EDINBURGH, 26th January 1893.

“The Commissioner having resumed consideration of this Application under reference to the Order of 20th June 1892, Finds that Farquhar Mackenzie, who claims to be tenant of the holding at Fernmore, has failed to obtemper the same by lodging a renunciation from John Mackenzie, heir-at-law of the deceased Finlay Mackenzie, in his favour: Finds, further, that the said Farquhar Mackenzie resides on another holding in the township of Ardhreslaig, some miles distant from Fernmore. Accordingly dismisses the Application: Finds no expenses due to or by either party.

(Signed) “P. B. MACINTYRE.”

[B] CASE OF MRS MARY MACKENZIE OR URQUHART, LUIBMORE, GAIRLOCH.

This Application was a Form 8 at the instance of the said Mrs Mary Mackenzie or Urquhart, against the landlord, Sir Kenneth S. Mackenzie of Gairloch, Bart., to have proceedings for her removal from the holding at Luibmore aforesaid sisted until an Application by her to have a Fair Rent fixed for the said holding had been disposed of by the Commission. Having regard to Section 6 (4) of the Act, in respect the summons did not bear to be for removal on the ground of non-payment of rent, the Commissioners were precluded from issuing an Order sisting proceedings under the same *in statu quo*, but issued instead an Order calling upon the applicant to show cause why her Application should not be dismissed, having regard to the said Section of the Act. After further procedure the Commissioners dismissed the same as incompetent, as will be seen from the subjoined Order and Note, viz:—

“EDINBURGH, 8th June 1893.

“The Commissioners having resumed consideration of this Application, with the documents produced, Dismiss the same as incompetent under reference to the annexed Note: Finds no expenses due to or by either party.

(Signed) “DAVID BRAND.
“W. HOSACK.
“P. B. MACINTYRE.”

“Note.—The present Application is made under Section 6 (4) of the Act, but is incompetent having regard to the provisions of that Section which only empowers the Commissioners to sist proceedings for the removal of a crofter in respect of non-payment of rent. The petition at the instance of the landlord, produced and marked 1360/A, does not crave for removal in respect of non-payment of rent, but on wholly different grounds as appear from the averments on which it proceeds. The Commissioners are not called on to say whether the applicant acquired any, and if so, what right of succession under the alleged settlement, produced and marked 1360/C, as admittedly, no intimation of the same was made to the landlord under and in terms of Section 16 of the Act; and, failing such intimation, nothing occurred to import acceptance of the right to the holding at Luibmore of the deceased Colin Urquhart, the applicant's husband, by her as alleged legatee under the foresaid settlement. Meantime the heir *ab intestato* is said to have taken up the succession, and to have renounced his right of tenancy to and in favour of the landlord against whom there stood and stands no bar from accepting the same, and thereafter adopting proceedings for removal of the applicant.

(Initialed) “D. B.
“W. H.
“P. B. M.”

With regard to the Application by the said Mrs Mary Mackenzie or Urquhart to have a Fair Rent fixed for the holding at Luibmore aforesaid, the same was dismissed by Mr Commissioner Macintyre on 4th October 1893, under reference to the foregoing Order and Note, in respect the applicant failed to appear at the hearing on that date, and it was stated to the Commissioner that she had been removed from her said holding.

[C] CASE OF ANNAT CROFTERS—QUESTION AS TO RIGHT OF ACCESS TO PIER OR LANDING PLACE AT LOCH TORRIDON.

In the course of the hearing of Applications by the proprietor, Lord Lovelace, to have Fair Rents fixed for crofters of Annat, on his Estate of Bendamph, frequent complaint was made by the said crofters that they had been deprived by the landlord of access by land to a pier or boat landing place on the shore of Loch Torridon near to their holdings, and they craved the Commissioner to issue a finding on the point. While the Commissioner was of opinion that he could not deal with

the question by operative Order under the present Applications, he duly inspected the subject of grievance, and has given effect to his views on the matter in the form of a note written in R.N. 1834, and hereto appended, viz. :—

“ EDINBURGH, 15th December 1893.

“In the course of the hearing it was made matter of complaint to the Commissioner by the respondents that since the passing of the Act they had been deprived by the landlord of access by land to a pier or boat landing place situated on the shore of Loch Torridon, in the vicinity of their holdings, and near the dwelling-house occupied by the gamekeeper in the employment of the landlord. The complainers alleged that they had enjoyed this access to the pier or landing place in question for many years, and that the loss of the same had been found to operate very serious injury to them. The Commissioner heard fully what the complainers had to submit to him in statement, and afterwards duly inspected the ground where the access had existed. While of opinion that the question thus raised is not covered by the terms of the Fair Rent Application, and is not relevant to a Fair Rent inquiry, he thinks it right to state his opinion that it had been established, such a landing place and access had previously existed for a long period of time, that the complainers had been in recent years deprived of the same, and that such deprivation constituted a somewhat serious and well founded grievance. While, accordingly, the Commissioner does not feel that he can competently issue any operative Order binding upon the parties, he embraces the opportunity afforded by the present Application to recommend strongly to the landlord to reconsider the matter, and to restore to the complainers the right of access to the pier or boat landing place in question which has been taken away from them.

(Signed)

“ P. B. MACINTYRE.”

(5) COUNTY OF SUTHERLAND.

[A] RENT OF ADDITIONAL PASTURE FIXED BY COMMISSION—HOLDINGS PREVIOUSLY DEALT WITH—(a) CASES OF DUNCAN MUNRO, 17 ACHVREAL, AND THREE OTHERS.

In the Application (Form 4) by His Grace the Duke of Sutherland to have Fair Rents fixed for holdings in the townships of Acheillie, Ardochy, &c., in the crofting parish of Rogart, it was stated that an additional grazing right, to the extent of 1900 acres or thereby common pasture, had been assigned in 1887 by the then Duke of Sutherland to the crofter tenants on the south side of Strath Fleet, including among others (1) Duncan Munro (formerly Charles Ross), 17 Achvreal; Alexander Gunn, 75 Inchcape; Neil Mackay, 90 Inchoraig; and John Gordon, 78 Inchcape. The Commissioner was requested to take this concession into consideration in fixing Fair Rents under the said Application. With regard, however, to the cases of the said Duncan Munro, Alexander Gunn, Neil Mackay, and John Gordon, the Applications made in respect of them were limited to having a Fair Rent fixed for the share of each in the said additional common pasture,—Fair Rents for the holdings occupied by them having been previously fixed by the Commission in the early part of 1887.* The following Order sets forth the Fair Rents of the said additional pasture payable by them, &c., viz. :—

“ EDINBURGH, 15th December 1893.

“The Commissioner having heard parties, and considered the Minute of Agreement of date 11th October 1893, produced and marked B/710, between Donald Maclean on behalf of His Grace the Duke of Sutherland and Duncan Munro, 17 Achvreal (formerly Charles Ross); Alexander Gunn, 75 Inchcape; Neil Mackay, 90 Inchoraig; and John Gordon, 78 Inchcape, all of Rogart: Finds and Declares, under and in terms of the said Minute of Agreement, that in the year 1887 1900 acres or thereby were assigned by the then Duke of Sutherland as an extension of pasture to the crofter tenants on the south side of Strath Fleet, including the said four tenants: Finds that the said extension was then added to the old common pasture of the said crofters, extending to 1650 acres or thereby, and that the two portions of 1650 acres and 1900 acres, or 3550 acres in all, were consolidated into one common grazing for the said tenants: Finds that Fair Rent Applications by the said four tenants were disposed of by the Commission in the early part of 1887, and that the Commissioners had not then before them any question as to the said 1900 acres, and accordingly that the said portion of land was not then dealt with by them: Finds and Declares, in terms of the said Minute of Agreement, that each of the said four tenants has a right and interest in the said grazing, and that the value of the same falls to be assessed by the Commissioner along with the rights and interests of all the other tenants concerned therein: Finds that the assessment or value made by the Commissioner of the grazing right held by the said four tenants in the said extension of pasture is as follows :—

	£	s.	d.
(1) Duncan Munro (formerly Charles Ross),	0	19	0
(2) Alexander Gunn,	1	7	0
(3) Neil Mackay,	1	6	0
(4) John Gordon,	0	10	0

* See Report for 1886–87, page 10, Nos. 178, 177, 174, 176.

Finds that the said assessment or value falls to be added to the Fair Rents already fixed in their said respective Applications, all as set forth in the said Minute of Agreement.

(Signed) "W. HOSACK."

[b] CASE OF ALEXANDER BANNERMAN, EAST LANGWELL.

Similar observations to those in the immediately preceding case fall to be made with reference to this and the two following cases of, (1) Hugh Matheson, Rhimusaig; and (2) John Grant, Dalreavoch; except in so far as relative to the pasture assigned, which differs in each instance in regard to extent and locality, as will be seen from the Orders issued in the Applications. The following is the Order in this case, viz:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the Minute of Agreement, dated 13th October 1893, produced and marked 1/712, between Donald Maclean on behalf of His Grace the Duke of Sutherland, and Alexander Bannerman, 140 East Langwell, Rogart, Finds and Declares, under and in terms of the said Minute of Agreement, that at Whitsunday last 345 acres or thereby were assigned by the Duke of Sutherland as an extension of pasture to the crofter tenants of East Langwell, including the said Alexander Bannerman: Finds that a Fair Rent Application by the said Alexander Bannerman was disposed of by the Commissioners in the early part of 1887,* and that the Commissioners had not then before them any question as to the said 345 acres, and accordingly that the said portion of land was not then dealt with by them: Finds and Declares, in terms of the said Minute of Agreement, that the said Alexander Bannerman has a right and interest in the said grazing, and that the value of the same falls to be assessed by the Commissioner, along with the right and interest of all the other tenants concerned therein: Finds that the assessment or value made by the Commissioner of the grazing right of the said Alexander Bannerman, in the said extension of pasture, is the sum of two pounds ten shillings sterling: Finds that the said assessment or value falls to be added to the Fair Rent already fixed for the said Alexander Bannerman, all as set forth in the said Minute of Agreement.

(Signed) "P. B. MACINTYRE."

(c) CASE OF HUGH MATHESON, RHIMUSAIG.

The following is the Order:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the Minute of Agreement of date 16th October 1893, produced and marked 0/723, between Donald Maclean on behalf of His Grace the Duke of Sutherland, and Hugh Matheson, 344 Rhimusaig, Finds and Declares, in terms of the said Minute of Agreement, that, in the year 1887, 260 acres or thereby were assigned by the then Duke of Sutherland as an extension of pasture to the crofter tenants of Bank, Rhimusaig, and Kinnauld, including the said Hugh Matheson: Finds that the said extension was then added to the old common pasture of the said crofters, extending to 158 acres or thereby, and that the two portions of 158 acres and 260 acres, or 418 acres in all, were consolidated into one common grazing for the said tenants: Finds that a Fair Rent Application by the said Hugh Matheson was disposed of by the Commission in the early part of 1887,† and that the Commissioners had not then before them any question as to the said 260 acres, and accordingly that the said portion of land was not then dealt with by them: Finds and Declares, in terms of the said Minute of Agreement, that the said Hugh Matheson has a right and interest in the said grazing, and that the value of the same falls to be assessed by the Commissioner along with the right and interest of all the other tenants concerned therein: Finds that the assessment or value made by the Commissioner of the grazing right of the said Hugh Matheson in the said extension of pasture is the sum of fourteen shillings sterling: Finds that the said assessment or value falls to be added to the Fair Rent already fixed for the said Hugh Matheson, all as set forth in the said Minute of Agreement.

(Signed) "P. B. MACINTYRE"

(d) CASE OF JOHN GRANT, DALREAVOCH.

The following is the Order:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the Minute of Agreement of date 20th October 1893, produced and marked 61/727, between Donald Maclean on behalf of his Grace the Duke of Sutherland, and John Grant, 71 Dalreavoch, Finds and Declares, under and in terms of the said Minute of Agreement, that, in the year 1887, 553 acres or thereby were assigned by the then Duke of Sutherland as an extension of pasture to the crofter tenants of Dalreavoch and Tannachy,

* See Report for 1886-87, page 9, No. 172.

† See Report for 1886-87, page 10, No. 185.

including the said John Grant: Finds that the said extension was then added to the old common pasture of the said crofters, extending to 133 acres or thereby, and that the two portions of 553 acres and 133 acres, or 686 acres in all, were consolidated into one common grazing for the said tenants: Finds that a Fair Rent Application by the said John Grant was disposed of by the Commission in the early part of 1887,* and that the Commissioners had not then before them any question as to the said 553 acres, and, accordingly, that the said portion of land was not then dealt with by them: Finds and Declares, in terms of the said Minute of Agreement, that the said John Grant has a right and interest in the said grazing, and that the value of the same falls to be assessed by the Commissioner along with the right and interest of all the other tenants concerned therein: Finds that the assessment or value made by the Commissioner of the grazing right of the said John Grant in the said extension of pasture is the sum of £1, 15s. sterling: Finds that the said assessment or value falls to be added to the Fair Rent already fixed for the said John Grant, all as set forth in the said Minute of Agreement.

(Signed)

— “P. B. MACINTYRE.”

[B] NOT A HOLDING AT THE PASSING OF THE ACT—CASE OF ALEXANDER POLSON, SENIOR, HELMSDALE.

His Grace the Duke of Sutherland lodged an Application (Form 4) to have Fair Rents fixed for, among others, the crofter tenants of the township of West Helmsdale. During the process of hearing the various respondents under the said Application, Alexander Polson, senior, residing in the village of Helmsdale, lodged a request to be heard in relation to a claim set forward by him to the croft, or holding, formerly known as No. 161 West Helmsdale, at one time occupied and possessed by Robert Polson, deceased, younger brother of the said claimant, and since divided between two of the said respondents in enlargement of their holdings. The said Alexander Polson, senior, founded his claim on an assignation in his favour, purporting to be granted by the said Robert Polson. Exception was taken thereto on the ground, *inter alia*, that the said croft was not a holding within the meaning of the Act, in respect the said Robert Polson had removed therefrom in or about 1866, and was not residing thereon at the passing of the Act. The Commissioner upheld this contention, and issued the following Order rejecting the said claim, viz.:—

“EDINBURGH, 15th December 1893.

“The Commissioner having heard parties, and considered the evidence adduced in support of the Application or Claim by Alexander Polson, senior, Finds it proved that the alleged holding in question, formerly described in the Estate Books as No. 161 West Helmsdale, ceased to be occupied and possessed as a holding or croft in or about the year 1866, when the then occupant, Robert Polson, removed therefrom, and went to reside in Helmsdale: Finds that after that time the house he had occupied on the said croft fell into decay, and that at the passing of the Act the said subjects did not come within the definition of a holding in terms of Section 34: Finds, therefore, that the present Application or Claim is incompetent, and dismisses the same: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

[C] AGREEMENT AS TO RENT—CASE OF WIDOW ANGUS MACKAY, 227 TANNACHY.

In the Application (Form 4) by His Grace the Duke of Sutherland to have Fair Rents fixed for the holdings occupied by the crofter tenants of the township of Tannachy, there was included as a respondent, Widow Angus Mackay, who occupies Lot 227 of said township. It appeared, from a letter produced at the hearing, an agreement had been entered into between the said respondent and Mr Joseph Peacock, a former factor of the applicant, whereby it had been arranged that the rent of the said holding, so long as it continued in the occupancy and possession of the said widow, should be the annual sum of 10s. sterling. The Commissioner held that the foresaid agreement had the effect of excluding the Application from his consideration, in so far as it related to the said respondent: He accordingly issued the following Order dismissing the same, viz.:—

“EDINBURGH, 15th December 1893.

“The Commissioner having resumed consideration of this Application, and in particular of the case of Widow Angus Mackay, Lot 227 Tannachy, Finds that the rent of the holding during the tenure of the said Widow Angus Mackay has been adjusted as between herself and the estate management under and in terms of the letter from Mr Joseph Peacock to her, dated 24th January 1883, produced and marked A1/731, whereby the rent is fixed for the said Widow Angus Mackay, during the remainder of her tenure, at the sum of 10s.: Finds and Declares in these circumstances, accordingly, that the case of the said Widow Angus Mackay is not properly before the Commissioner: Therefore dismisses this Application in so far as it relates to her: *Quoad ultra* Sustains the competency of the Application.

(Signed)

“P. B. MACINTYRE.”

(6) COUNTY OF CAITHNESS.

LEASE—CASE OF ISABELLA SUTHERLAND, EAST CLYTH.

In this case objection was taken to the Application on the ground that the applicant, Isabella Sutherland, was a Leaseholder and not a crofter in respect she continued to possess and occupy her

* See Report for 1896-87, page 10, No. 182.

holding at East Clyth under a Lease entered into with her late husband, Henry Sutherland, for fourteen years from Whitsunday 1875. The Commissioner sustained the said objection, and dismissed the Application. The following Order sets forth more fully the facts of the case :—

“ EDINBURGH, 17th March 1893.

“ The Commissioner having heard parties, and considered the parole and documentary evidence adduced, Finds that, by written Contract of Lease, dated 20th and 22nd February 1877, produced and marked A/1190, the now deceased husband of the applicant, who was named Henry Sutherland, became tenant of the holding at East Clyth, under the respondent, for 14 years, from and after Whitsunday 1875, at a rent of £28 sterling : Finds that the said Henry Sutherland died on or about 7th January 1880 : Finds that after his death the present applicant continued to possess and occupy the holding under the said Lease, and that the same was allowed to run its natural course till the date of expiry, which occurred in 1889 : Finds that the applicant has failed to prove her averment that the respondent agreed to the said Lease being held as terminated, and to her possessing as a tenant from year to year : Finds and Declares, therefore, that the present applicant held under Contract of Lease for a term of years at the passing of the Act, and was therefore at that time not a crofter : Accordingly Sustains the objection taken by the respondent on that ground : Finds the Application incompetent, and dismisses the same : Finds no expenses due to or by either party.

(Signed)

“ P. B. MACINTYRE.”

(7) COUNTY OF SHETLAND.

[A] SECTION 2 (2), 1887 ACT—DAYS OF CHARGE NOT *Induciae*—CASE OF ANDREW STRACHAN, HAM.

The applicant in this case, Andrew Strachan, Ham, Bressay, was also the applicant in a Fair Rent Application which was dismissed by Final Order therein on 20th October 1892.* An Application by the said applicant for Sist (Form 9), after various orders had been made therein during the time betwixt the date of lodging same and the hearing of the said Fair Rent Application, was also dismissed under reference to the said Final Order, in respect it had been superseded thereby. Against the Final Order in the said Fair Rent Application the applicant appealed, but in the meantime the prohibition, *in statu quo*, granted under the before-mentioned Sist, having been removed, the proprietor proceeded to charge the appellant to make payment of the principal sum and expenses on an Extract Decree in the action, in respect of which the said Sist had been made. The present Application was then lodged whereby the applicant (appellant) craved the Commissioners to prohibit further proceedings at the instance of the charger under the said Extract Decree. Section 2 (2) of the Act of 1887 was held not to apply to days of charge, and the Application was dismissed as incompetent. The following are the Order and Note :—

“ DINGWALL, 2nd August 1893.

“ The Commissioners having resumed consideration of this Application, together with the Declaration of the applicant, marked 1140/B, Find the Application incompetent, and, under reference to the annexed Note, dismiss the same : Find no expenses due to or by either party.

(Signed)

“ DAVID BRAND.

“ W. HOSACK.

“ P. B. MACINTYRE.”

“ Note.—In this case the Application to fix a Fair Rent was made on 17th January 1888, and was disposed of by Final Order, of date 20th October 1892 (*See Crofters Commission Report for that year, pages 135 and 136*), wherein it was held that the applicant was a Lease-holder and not a crofter. At that date there was also pending an Application for a Prohibitory Order, in terms of the Act 50 & 51 Vict. cap. 24, under which Application two instalments of £3 each had been ordered to be paid, and had been paid by the applicant. Following on the Final Order in the Fair Rent Application, the Application (Form 9) was dismissed. On or about 2nd June 1893 the applicant was charged to implement the Decree against him for the sum or sums concluded for as set forth in the Sheriff Court Decree, dated 5th February 1890, but under deduction always of the said instalments of £3 sterling each, or in all £6. The present Application was lodged on 10th June 1893; and apparently it is maintained by the applicant that this date, being within ten days of the date of charge, comes within the scope and meaning of Section 2 (2) of the said Act of 1887. The two questions for consideration are, first, Can there be a competent Sist or Prohibitory Order obtained in a crofter's Application following upon previous proceedings of the same kind which had been dismissed in respect of an Order in a relative Fair Rent Application; secondly, Can the words in the Act “ Expiration of the *induciae* in the action,” be taken to mean or include days during which a charge is running. The Commissioners are clearly of opinion that both these questions fall to be answered in the negative. A second Sist in the same Sheriff Court action is, in their opinion, incompetent, and the words of the Act above quoted do not refer to days of charge, but to the *induciae* running on the Sheriff Court summons or proceedings.

(Initialed)

“ D. B.

“ W. H.

“ P. B. M.”

* See Report for 1892, pages 135 and 136.

[B] LEASE-HOLDER—CASE OF WILLIAM LAURENSEN, CLICKIMIN, LERWICK.

The following Order and Note fully set forth the particulars of this case :—

“ EDINBURGH, 9th November 1893.

“ The Commissioners having resumed consideration of this Application, Find it proved that at the passing of the Act the applicant held under a Lease for fourteen years from Martinmas 1874, dated 18th September and 8th October 1875, entered into by him with the late Dame Eliza Jane Nicolson, widow of the deceased Sir Arthur Nicolson of Nicolson, Bart., as trustee predecessor of the present respondent: Find that the said Lease did not expire till Martinmas 1888: Find that decree of removing for non-payment of rent was obtained against the applicant on 18th January 1893, and extracted on 3rd February of the same year—all conform to the documents produced and marked respectively 1125/G and 1125/C: Find, therefore, in view of the provisions of Section 34 of the Act, that the applicant is not a crofter within the meaning of the same: Accordingly dismiss this Application as incompetent: Find the applicant liable in expenses: Modify these to the sum of 10s. 6d., and decern for that amount.

(Signed)

“ DAVID BRAND.

“ W. HOSACK.

“ P. B. MACINTYRE.”

“ *Note.*—The applicant was afforded an opportunity, under the Order of 18th May 1893, of lodging a statement with reference to the foresaid Lease produced by the respondent, but failed to implement the said Order.

(Initialed)

“ D. B.

“ W. H.

“ P. B. M.”

[C] GRAZING RIGHT—CASE OF JOHN MORRISON, SAND.

On a representation by the applicant, John Morrison, Sand, under an Application to fix Fair Rent dealt with in 1889, in consequence, it would appear, of a dispute having arisen as to his right of pasturage of his stock, along with that of neighbouring crofters, in a park at Kirkaness, the Commissioner issued the sub-joined Order finding that such a right was conceded by the respondent, the trustee in bankruptcy of Mr J. Bruce Leask, at the hearing of the said Application, and forms part of his holding under the Act.

“ EDINBURGH, 3rd February 1893.

“ The Commissioner having resumed consideration of this Application, together with the letter of 5th November 1892, marked 1/570, Finds and Declares that, in the course of the hearing it was stated on behalf of the applicant that he had formerly possessed and occupied a right of grazing in a park at Kirkaness, but had been deprived of the same: Finds that a claim was then made, the said right of grazing should be restored to the applicant: Finds that this claim was fully conceded by Mr Alexander Bain, Law Agent in attendance at the inquiry on behalf of the estate, and that in respect of this express agreement and acquiescence, the Commissioner dealt with the said right of grazing, being $\frac{1}{2}$ th share, as part of the applicant's holding, made a valuation of the same, along with the rest of the subjects, and fixed the Fair Rent on the footing that this right of grazing conceded as aforesaid formed part of the holding occupied and possessed by the applicant under and in terms of the Act.

(Signed)

“ W. HOSACK.”

APPENDIX H—ENLARGEMENT OF HOLDINGS.

[A]—APPLICATIONS GRANTED.

(1) COUNTY OF ORKNEY—GRÆMESHALL APPLICATION.

James Gorn and four other crofters on the Estate of Græmeshall, the Property of Mr A. Sutherland Græme, applied for enlargement of their holdings by having assigned to them a portion of the Farm of Greenwall, on the said Estate, extending to 34 acres or thereby of arable land, presently let to Mr James Heddle. In the present Application reference is made by Article 5 therein to the Application for enlargement by the same applicants, with reference to another portion of the said Farm of Greenwall, and which was refused by Order, dated 16th December 1892,* on the ground of material damage to the letting value of the remainder of the said farm, in the event of the land applied for being assigned; and at the hearing in the present case it was agreed, on the joint motion of parties, to hold the evidence led and objections stated to the said Application as applicable and pertaining hereto. The Commissioner thereafter issued the subjoined Order, from which it will be seen that the objection of material damage is sustained and the Application refused with regard to certain portions of the lands applied for, but repelled and the Application granted in so far as regards the remainder thereof, consisting of two fields marked 789 and 804 on the Plan or Tracing annexed, and signed as relative to the said Order, which sets forth fully the particulars relating to the said assignment, viz :—

“KIRK WALL, 11th July 1893.

“The Commissioner having considered this Application, and having also considered the relative Application by the applicants, R.N.572, presently under appeal, as also the whole documentary and parole evidence adduced in the same, and having inspected the whole lands applied for, Repels the objections to the competency hereof stated for the respondent in the Minute marked D/572, and Finds this Application competent: Finds that the same is also objected to on the ground that the assignment of the whole land applied for would cause material damage to the letting value of the remainder of the Farm of Greenwall: Finds that the said objection is well founded in so far as regards the portion of land coloured red on the fields, Nos. 807 and 574 in the Plans produced and marked respectively A/867 and B/867: Therefore Sustains the said objection as to these particular portions of land, and to that extent and effect dismisses the Application: But Finds that the said objection is without substance or force in so far as regards the fields marked 789 and 804 on the Plan or Tracing prepared by M. Heddle, Surveyor, Kirkwall, of date 8th July 1893, and marked C/867: Finds that an assignment can be made of these fields in enlargement of the applicants' holdings without causing such material damage, and therefore Repels the objection, and Sustains the competency of the Application with regard thereto: Finds that the said last-mentioned fields extend to 27.167 acres of arable land: Finds that these fields lie contiguous or near to the applicant's present holdings: Finds that the rent or annual letting value of the said farm is £135, 18s., and that the aggregate annual value of the land now to be dealt with is less than one-third of the said annual letting value of the said farm: Finds that the Application may be granted without raising the annual rent or value of the applicants' holdings respectively to an amount higher than £15 sterling each: Accordingly assigns (but subject always to the condition in regard to fencing hereinafter mentioned) to the applicants, James Gorn, David Esson, Charles Longskaill, David Laughton, and Peter Pratt, the said fields or portions of land extending in area as aforesaid, and as the same is tinted green on the said Plan or Tracing marked C/867, and docqueted and subscribed by the Commissioners and Assistant Clerk as relative hereto: Finds and Declares, under Section 15 of the Act, that the said fields form part of the applicants' holdings, and are subject to the provisions of the same: Finds that the rent of the land assigned is £13, 10s., which falls to be divided into five parts or shares, whereof each applicant is liable for one part or share in name of additional rent, all conform to the annexed Schedule, setting forth—(1) the names of the applicants, (2) the Fair Rent of each, (3) the extent of land assigned, (4) the rent due by each in respect of the land now assigned, and (5) the total sum due by each as rent: Ordains the applicants to erect a substantial wire fence of six wires along the points A, B, C, D, E, F, & G on the said last-mentioned Plan or Tracing marked C/867; and thereafter Ordains the applicants and the respondent respectively to maintain and upkeep the same at joint expense: Ordains the respondent to give entry to the land hereby assigned at the term of Martinmas 1894, but only provided the said fence has been duly erected at sight and to the satisfaction of James Ferrier, Farmer, Weyland, Kirkwall; and, failing such compliance, reserves to reconsider, and, if necessary, to refuse this Application absolutely: Remits to the applicant, James Gorn, after compliance has been duly made with the foresaid provision and condition as to fencing, to lay out five parts or shares of the said arable land, of equal, or as nearly as may be, of equal value, the said parts or shares to be thereafter allocated by ballot under the supervision and management of the said James Gorn: Reserves to the parties to apply further, if so advised, as to the carrying out hereof: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

The following is the Schedule referred to:—

* See Report for 1892, page 190.

APP. H (1)—COUNTY OF ORKNEY.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan or Tracing.	Extent of Land Assigned.			Share in Common Pasture.	Rent of Land Assigned due by each.	Fair Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
								Arable.	Outrun.	Common Pasture.					
1	Grameshall (A. Sutherland Grane, Pro- priator)	1893 June 8	1893 July 11	James Gorn	Towerhill	Farm of Green- wall	789 and 804	Acres. 27.167	Acres. ...	Acres. ...		£ s. d. 2 14 0	£ s. d. 6 5 0	£ s. d. 8 19 0	
2	"	"	"	David Esson	Jackhole	"		...	...	...	(Equally.)	2 14 0	6 0 0	8 14 0	
3	"	"	"	Charles Langskail	Middletot	"		...	...	...		2 14 0	2 4 0	4 18 0	
4	"	"	"	David Laughton	East Park	"		...	...	...		2 14 0	6 1 6	8 15 6	
5	"	"	"	Peter Pratt	Drury	"		...	...	...		2 14 0	0 10 0	3 4 0	

(2) COUNTY OF ARGYLL.

(a) SOUTH GARVAN AND NORTH DUISKY APPLICATION.

This was an Application by the crofters of the townships of South Garvan and North Duiskey, on the Estate of Conaglen, the property of the Earl of Morton. An arrangement was come to between parties and embodied in the form of a Joint Minute lodged at the hearing, and marked B/384 of the proceedings. The Commissioner interposed authority to the said Joint Minute, and gave effect to its terms by the following Order in the Application, viz:—

“KIRK WALL, 31st July 1893.

“The Commissioner having resumed consideration of this Application, together with the Joint-Minute for parties marked B/384, Interposes authority to the said Joint Minute, and in terms thereof assigns to the applicants, in enlargement of their holdings, (1) 619 acres and 775 acres of pasture land, over which the applicants and other tenants or occupants of the townships of North Duiskey and South Garvan have at present a right of grazing 29 cows and followers and 1 pony; (2) 317 acres of higher hill pasture land lying to the south of the said last-mentioned land, said pieces of pasture land being coloured pink on the Ordnance Survey Sheet or Plan produced and marked C/384, and docqueted and subscribed as relative hereto by the Commissioner and Assistant Clerk; and (3) 92 acres 2 roods 37 poles of vacant croft land lying interspersed throughout the portion of land coloured blue on the said Ordnance Survey Sheet or Plan, making in all 1804 acres 2 roods 37 poles or thereby, to be held by the applicants in common: Finds and Declares that the said area of land forms part and portion of their holdings under Section 15 of the Act: Reserves to the respondent, for the holdings occupied by Allan Rankine and Duncan Kennedy, the right of grazing five cows and followers and one pony, in virtue of the rights of grazing at present effecting to the said holdings; and also reserves to him all other rights at present possessed by the occupants of said holdings in common with the said applicants: Ordains that the said land hereby assigned under the foresaid reservation shall form part of the respective holdings of the applicants under and in terms of the Crofters Holdings (Scotland) Act, 1886: Finds that the annual value of the land assigned, payable by the applicants, was fixed after taking into consideration the value of the grazing of the said 29 cows and 1 pony on the said 619 and 775 acres, and an apportionment of which is already included in the Fair Rents of the applicants: Finds the same to be the sum of £25 sterling, and which falls to be paid by them in the proportions set forth in the annexed Schedule, setting forth (1) the names of the applicants, (2) the extent of the land assigned, (3) the share or proportion of each applicant, (4) the rent of the land assigned due by each, (5) the rent of the present holding, and (6) the rent of each holding as enlarged: Ordains the applicants to erect a fence between the points marked A and B on the said Plan, marked C/384, in conformity with the Specification marked D/687; and that at or before the term of Martinmas 1894, and after erection thereof, ordains the said applicants to maintain and upkeep the same at their sole expense: Ordains the respondent, when the said fence has been erected by the applicants, to erect and thereafter maintain and upkeep a fence on the west boundary of the said land, so far as may be necessary, between the points C and D on the said last-mentioned Plan—the said fence to be at least equal in height and stability to the one erected by the applicants: Ordains the respondent to give entry to the said land assigned at the said term of Martinmas 1894, but that only provided the said fence has been duly erected by the applicants; and, failing such compliance, reserves to refuse this Application absolutely in terms of the said Joint Minute: Reserves to parties to apply further as to the carrying out hereof.

(Signed)

“W. HOSACK.”

“*Note.*—It is right to add that, while the said Joint-Minute craves the Commissioner to make regulations for the proper and safe burning of heather on the land assigned, as well as such other regulations as may be deemed necessary, this cannot properly be done here, but falls to be dealt with in a separate Application directed to that object.

(Initialed)

“W. H.”

The following is the Schedule referred to:—

APP. H (2)—COUNTY OF ARGYLL.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan or Tracing.	Extent of Land Assigned.		Share of Land Assigned.	Rent of Land Assigned due by each.	Rent of Present Holding.	Rent of each Holding as Enlarged.	Observations.
								Old Croft Land in Common.	Ac. Ro. Po.					
1	Conaglen (Earl of Morton, Proprietor)	1889 Jan. 1	1893 July 31	John Kennedy	1 South Garvan			93 2 37	Acres. 619 775 317	$\frac{3}{8}$	£ s. d. 2 0 0	£ s. d. 2 2 0	£ s. d. 4 2 0	
2	"	"	"	Ann MacLachlan	2 "			...	...	$\frac{3}{8}$	1 0 0	1 11 0	2 11 0	
3	"	"	"	Archibald Macphree	3 "			...	...	$\frac{3}{8}$	1 0 0	1 9 0	2 9 0	
4	"	"	"	John Cameron	4 "			...	...	$\frac{3}{8}$	2 0 0	2 14 0	4 14 0	
5	"	"	"	Jessie Maclean	6 "			...	...	$\frac{3}{8}$	1 0 0	0 10 0	1 10 0	
6	"	"	"	John Boyd	7 "			...	...	$\frac{3}{8}$	2 0 0	2 10 0	4 10 0	
7	"	"	"	Angus Mackinnon	8 "			...	...	$\frac{3}{8}$	2 0 0	2 0 0	4 0 0	
8	"	"	"	Mrs Margaret Macintyre	5 "			...	...	$\frac{3}{8}$	2 0 0	2 10 0	4 10 0	
9	"	"	"	Ewen Macintyre	7 North Duisky			...	...	$\frac{3}{8}$	2 0 0	2 5 0	4 5 0	
10	"	"	"	Widow John Macmillan	"			...	...	$\frac{3}{8}$	2 0 0	2 18 0	4 18 0	
11	"	"	"	John Cameron	5 "			...	...	$\frac{3}{8}$	2 0 0	2 12 0	4 12 0	
12	"	"	"	Donald Rankine	1 & $\frac{1}{2}$ of 2			...	...	$\frac{3}{8}$	3 0 0	5 3 0	8 3 0	
13	"	"	"	Allan Macinnes	2 ^d & 3 "			...	...	$\frac{3}{8}$	3 0 0	5 9 0	8 9 0	

(b) BLAICH APPLICATION.

An agreement had been arrived at between the parties to this Application whereby the applicants, the crofters of the township of Blaich, on the Estate of Conaglen aforesaid, were to receive, in enlargement of their holdings, certain extended rights in the pasture of 1055 acres common to the township, together with additional pasturage to the extent of 1698 acres or thereby of higher hill pasture, and vacant croft land extending to 51½ acres or thereby, subject to the reservations contained in the Joint Minute for parties lodged at the hearing and marked B/687, setting forth the terms of the arrangement come to, and to which the Commissioner has given effect in the following Order:—

“KIRKWALL, 31st July 1893.

“The Commissioner having resumed consideration of this Application, together with the Joint-Minute for parties marked A/687, Interpones authority to the said Minute, and in terms thereof assigns to the applicants, in enlargement of their holdings, (1) 1055 acres of pasture land over which the applicants and other tenants or occupants of Blaich have at present a right to graze 83 cows and their followers and 1 pony; (2) 1698 acres of higher hill pasture land, lying to the south of the said last-mentioned land, both pieces of pasture land being coloured pink on the Ordnance Survey Sheet or Plan produced and marked B/687, and docketed and subscribed as relative hereto by the Commissioner and Assistant Clerk; and (3) 51 acres 2 roods 16 poles of vacant croft land lying interspersed throughout the portion of land marked green on the said Ordnance Survey Sheet or Plan, making in all 2804 acres 2 roods and 16 poles or thereby, to be held by the applicants in common: Finds and Declares that the said area of land forms part and portion of their holdings under Section 15 of the Act: Reserves to the respondent, for the croft occupied by John Beaton, Nos. 1² and 2, and for the crofts occupied by the respondent’s gamekeepers or servants, Nos. 18¹, 19, and 20 respectively on the Estate Roll, and coloured purple on the said Ordnance Survey Sheet or Plan, marked B/687, the right of grazing 9 cows and their followers and 1 pony on said land in virtue of the rights of grazing at present effeiring to the said crofts; and also reserves to him all other rights at present possessed by the occupiers of said crofts in common with the said applicants: Ordains that the said land hereby assigned, under the foresaid reservation, shall form part of the respective holdings of the applicants under and in terms of the Crofters Holdings (Scotland) Act, 1886: Finds that the annual value of the land assigned, payable by the applicants, was fixed, after taking into consideration the value of the grazing of the said 83 cows and 1 pony on the said 1055 acres of land, and an apportionment of which is already included in the Fair Rents of the applicants: Finds the same to be the sum of £51, 16s., and which falls to be paid by them in the proportions set forth in the annexed Schedule, setting forth (1) the names of the applicants, (2) the extent of the land assigned, (3) the share or proportion of each applicant, (4) the rent of the land assigned due by each, (5) the rent of the present holding, and (6) the rent of each holding as enlarged: Finds and Declares that while the rent of the applicant, Mary Cameron, exceeds the sum of £15, no objection to her case arises under Section 13 (5) of the Act, the present Order being pronounced of joint consent under and in terms of the foresaid Minute: Ordains the applicants to erect a fence on the east boundary of the land assigned, between the points marked A, B, C, & D on the said Plan, in conformity with the specification marked B/687; and that at or before the term of Martinmas 1894, and after erection thereof, Ordains the said applicants to maintain and upkeep the same at their sole expense: Ordains the respondent, when the said fence has been erected by the applicants, to erect and thereafter to maintain and upkeep a fence on the west boundary of said land, so far as may be necessary, between the points E and F on the said Ordnance Survey Sheet or Plan, the said fence to be at least equal in height and stability to the one erected by the applicants: Ordains the respondent to give entry to the said land assigned at the said term of Martinmas 1894, but that only provided the said fence has been duly erected by the applicants; and, failing such compliance, reserves to refuse this Application absolutely in terms of the said Joint Minute: Reserves to parties to apply further as to the carrying out hereof.

(Signed)

“W. HOSACK.”

“*Note.*—It is right to add that, while the said Joint Minute craves the Commissioner to make regulations for the proper and safe burning of heather on the land assigned, as well as such other regulations as may be deemed necessary, this cannot properly be done here, but falls to be dealt with in a separate Application directed to that object.

(Initialed)

“W. H.”

The following is the Schedule referred to:—

APP. H (2)—COUNTY OF ARGYLL—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan or Tracing.	Extent of Land Assigned.		Share of Land Assigned.	Rent of Land Assigned due by each.	Rent of Present Holding.	Rent of each Holding as Enlarged.	Observations.
								Ac. Ro. Po. 51 2 16	Old Croft Land in Common.	Acres. 1055 and 1698	£ s. d.	£ s. d.	£ s. d.	
1	Conaglen (Earl of Morton, Proprietor)	1893 April 28	1893 July 31	Donald Macintyre,	1 Blach					$\frac{2}{3}$	1 8 0	2 0 0	2 8 0	
2	"	"	"	Ewen Maclean,	3					$\frac{2}{3}$	2 2 0	3 18 0	6 0 0	
3	"	"	"	Duncan Boyd,	4					$\frac{2}{3}$	2 2 0	3 18 0	6 0 0	
4	"	"	"	Mary Cameron,	6, 7, 8					$\frac{2}{3}$	5 12 0	12 16 0	18 8 0	
5	"	"	"	Lachlan Maclean,	11					$\frac{2}{3}$	2 2 0	3 16 0	5 18 0	
6	"	"	"	Catherine Cameron,	12					$\frac{2}{3}$	2 2 0	3 18 0	6 0 0	
7	"	"	"	Donald Cameron, ¹	16 ^a					$\frac{2}{3}$	1 8 0	2 10 0	3 18 0	
8	"	"	"	Flora Macdougall,	24 & 25					$\frac{2}{3}$	3 10 0	8 10 0	12 0 0	
9	"	"	"	Angus Macinnes,	26					$\frac{2}{3}$	4 4 0	6 6 0	10 10 0	
10	"	"	"	Allan Henderson,	13					$\frac{2}{3}$	2 2 0	3 7 0	5 9 0	
11	"	"	"	Jessie Cameron,	14					$\frac{2}{3}$	2 2 0	3 10 0	5 12 0	
12	"	"	"	Duncan Boyd, junior,	10					$\frac{2}{3}$	2 2 0	3 18 0	6 0 0	
13	"	"	"	Donald Cameron,	21 ¹					$\frac{2}{3}$	2 2 0	4 4 0	6 6 0	
14	"	"	"	Margaret Maclean,	23					$\frac{2}{3}$	2 16 0	5 6 0	8 2 0	
15	"	"	"	Margaret Boyd,	25 ²					$\frac{2}{3}$	1 8 0	2 6 0	3 14 0	
16	"	"	"	Mrs Jane Macdonald,	4 ¹					$\frac{2}{3}$	1 8 0	2 12 0	4 0 0	
17	"	"	"	Alexander Kennedy,	5 ²					$\frac{2}{3}$	2 2 0	3 15 0	5 17 0	
18	"	"	"	Annie Macphee,	9 ¹					$\frac{2}{3}$	1 8 0	2 7 0	3 15 0	
19	"	"	"	Dugald MacLachlan,	9 ²					$\frac{2}{3}$	1 8 0	2 4 0	3 12 0	
20	"	"	"	Allan Cameron,	16 ¹					$\frac{2}{3}$	1 8 0	2 5 0	3 13 0	
21	"	"	"	Anne Boyd,	17 ²					$\frac{2}{3}$	1 8 0	2 12 0	4 0 0	
22	"	"	"	Donald Cameron, senior,	18 ¹					$\frac{2}{3}$	1 8 0	2 7 0	3 15 0	
23	"	"	"	Ewen Macdonald,	22 ¹					$\frac{2}{3}$	1 8 0	2 16 0	4 4 0	
24	"	"	"	Jane Macinnes,	22 ²					$\frac{1}{3}$	0 14 0	2 2 0	2 16 0	
25	"	"	"	Alexander Macmillan,	27					$\frac{2}{3}$	2 2 0	4 2 0	6 4 0	

(c) DRUMINTORRAN APPLICATION.

The applicants in this Application, crofters in the township of Scotstown, Strontian, the property of Sir Rodney S. Riddell, Bart., craved to have assigned to them, in enlargement of their holdings, a portion of the Farm of Ariundle, let conjointly with Druimintorran, to Mr Angus Buchanan, farmer, and known as Druimdubh, and extending to 100 acres or thereby of pasture land. Objections were stated thereto for the respondent, on the ground, *inter alia*, of material damage to the letting value of the remainder of the said farm. Subsequently, however, at the hearing, the Application was restricted by Minute, marked 4/698, to a right for each applicant to graze one cow and follower on the land applied for, and in this form was granted by the Commissioner, as will be seen from the following Order, viz. :—

“ DINGWALL, 3rd August 1893.

“ The Commissioner having heard parties, and considered the evidence adduced, Finds that the applicants ask for enlargement of their holdings as the Application has been restricted under the Minute produced and marked 4/698, by obtaining the grazing of one cow and follower for each applicant upon that portion of the Farm of Ariundle locally known as Druimdubh : Finds that in the case of Allan and Duncan Cameron a claim is made for the grazing of one cow and follower each : Finds that the Application is within the purpose and scope of the enlargement sections of the said Act : Finds that such enlargement is necessary to the applicants : Therefore assigns to each of them the right to graze one cow and follower till one year old, over the said land locally known as Druimdubh : Fixes the term of entry thereto, in the case of each applicant, at Whitsunday 1894 ; and, having made inspection of the ground, Finds and Declares that the Fair Rent due by each applicant, in respect of the said right of grazing now given, is as set forth in the annexed Schedule, which contains (1) the names of the applicants, (2) the rent of the grazing right assigned due by each, (3) the Fair Rent of each holding (except in the case of Catherine Leitch where the Present Rent is given, the Fair Rent Application made in her case having been withdrawn), and (4) the rent of each holding, with the rent of the said right of grazing added thereto : Finds and Declares that the granting of this Application has not the effect of raising the annual value of the applicants' holdings respectively to a higher amount than £15 sterling each : Finds that this assignment of grazing right is an addition to the applicants' holdings as crofters, and is subject to the provisions of the Act in terms of Section 15 thereof : Reserves to parties to apply further, if so advised : Finds no expenses due to or by either party.

(Signed)

“ W. HOSACK.”

The following is the Schedule referred to :—

APP. H (2)—COUNTY OF ARGYLL—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject over which Grazing Right granted.	Extent of Land Assigned.	Shares in Land Assigned.	Rent of Grazing right Assigned due by each.	Fair Rent of Holding.	Rent of Holding with Right of Grazing added.	Observations.
1	Strontian . . . (Sir Rodney S. Riddell, Bart., Proprietor)	1893 May 18	1893 Aug. 3	Allan Cameron and Duncan Cameron	Scotstown . .	Farm of Atriundle	Grazing of one cow and follower each		£ s. d. 3 0 0	£ s. d. 1 10 0	£ s. d. 4 10 0	
2	"	"	"	Duncan Macphee	"	"	"		1 10 0	1 0 0	2 10 0	
3	"	"	"	Donald Stewart .	"	"	"		1 10 0	1 0 0	2 10 0	
4	"	"	"	Catherine Leitch	"	"	"		1 10 0	1 2 11	2 12 11	
5	"	"	"	Margory and Allan Mackinnon	"	"	"		1 10 0	1 0 0	2 10 0	
6	"	"	"	Colin Thomson .	"	"	"		1 10 0	1 0 0	2 10 0	

(d) CLADDACH APPLICATION.

Duncan Ferguson and certain other crofters in the township of Claddach, Islay, the property of Mrs Baker of Cladville, applied for enlargement of their holdings by taking from the Farm of Cladville a portion thereof, locally known as Meadow and Staille. But at the hearing under the Application a joint minute was lodged, setting forth an arrangement between the parties whereby the Commissioner was craved to amend the applicants' claim by substituting for the said piece of land applied for another part of the said farm, consisting of grazing and moss land, and known as Caolabhain and Cailidh, and to assign the latter to the applicants, subject to the reservations and conditions stated in the said joint minute, in lieu and stead of the land applied for. The Commissioner allowed this amendment, and issued the subjoined Order, in terms of the said joint minute, dealing with the matter, viz:—

“ EDINBURGH, 15th December 1893.

“The Commissioner having resumed consideration of this Application, Finds, in terms of the joint minute marked B/686, that the respondent has offered, and the applicants have agreed to accept, and have accepted as in enlargement of their holdings, and in lieu and stead of the lands applied for, that portion of grazing and moss land known as Caolabhain and Cailidh: Accordingly refuses the Application in so far as it applies for that portion of the Farm of Cladville, locally known as Meadow and Staille, and substitutes therefor the said piece of grazing and moss land, locally known as Caolabhain and Cailidh, the same being other available land within the meaning thereof: Assigns the same to the applicants in enlargement of their holdings: Fixes the value of the said land at the annual sum of £7 sterling, all in terms of the Schedule hereto appended, which sets forth (1) the names of each applicant, (2) the rent of the land assigned due by each, (3) the present rent of each holding, and (4) the rent of each holding as enlarged: Finds that the said assignment will not have the effect of raising the annual value of each holding above £15 sterling: Finds and Declares that the land assigned forms part of the applicants' holdings under the Act, but under reservation always in terms of the said Minute to the cottars and others of the village of Portnahaven, presently exercising the same, the right of cutting, winning, and away carrying peats for fuel from the said land now assigned: Further, Finds and Declares that in fixing the said sum of £7 as the annual value of the land assigned, regard has been had to the agreement between parties, in terms of said joint-minute, as to payment by the applicants to the respondent of interest on the cost of the wire fence enclosing the same, already erected by the respondent, and that no further sum is due or payable in respect thereof: Further, Ordains the respondent to give entry to the said lands hereby assigned at or before Whitsunday 1894.

(Signed)

“ P. B. MACINTYRE.”

The following is the Schedule referred to:—

APP. H (2)—COUNTY OF ARGYLL—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan.	Extent of Land Assigned.			Share in Common Pasture.	Rent of Land Assigned due by each.	Fair Rent of Present Holding.	Rent of each Holding as Enlarged.	Observations.
								Arable.	Outrun.	Common Pasture.					
1	Cladville (Mrs Baker, Proprietrix)	1893 April 12	1893 Dec. 15	Gilbert Macallister	Claddach	Farm of Cladville, under lease	...	..	..	...	..	£ s. d. 1 0 0	£ s. d. 3 15 0	£ s. d. 4 15 0	
2	"	"	"	Widow Donald Macallister	"	"	...	...	...	...	...	1 0 0	3 15 0	4 15 0	
3	"	"	"	Duncan Ferguson	"	"	...	...	...	...	...	1 0 0	3 15 0	4 15 0	
4	"	"	"	Archibald Ferguson	"	"	...	...	...	...	...	1 0 0	3 15 0	4 15 0	
5	"	"	"	Archibald Macarthur	"	"	...	...	...	...	...	1 0 0	7 10 0	8 10 0	
6	"	"	"	Donald Murdoch	"	"	...	...	...	...	...	1 0 0	7 10 0	8 10 0	
7	"	"	"	Nicol Mackinnon	"	"	...	...	...	...	...	1 0 0	7 10 0	8 10 0	

(3) COUNTY OF INVERNESS.

(a) LOCHMADDY APPLICATION.

This was an Application by Neil Macdougall and other crofters at Lochmaddy, North Uist, the property of Sir J. Campbell Orde, Bart., for enlargement of their holdings by having assigned to them certain land presently in the occupancy of the said proprietor. Objection was taken to the Application on the ground that the subject from which the land was proposed to be taken was of less annual value than £100 sterling. The Commissioner, while repelling the said objection, assigned only a portion of the land applied for, delaying entry thereto until such time as the conditions as to fencing, &c., imposed upon the applicants by his Order, had been fulfilled by them. The Application was refused as to the remainder of the said land applied for. The following is the Order:—

“ DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, together with the Note of Objection for the respondent produced and marked G/148, Finds that the main objection stated is that the land applied for does not exceed £100 in rent or annual letting value: Finds that this objection does not arise relevantly in this case, and therefore Repels the same: Finds that the claim by the applicants for the enlargement of their holdings is reasonable, and that that portion of the land applied for, coloured red on the Ordnance Survey Sheet or Plan produced and marked A/148, and lettered A, B, C, D, E, and F thereon, may properly be assigned in enlargement of the holdings of the applicants: Accordingly Assigns to the applicants, in enlargement of their holdings, but subject always to fulfilment of the provision as to fencing after mentioned, the land marked A, B, C, D, E, and F as aforesaid: Refuses the Application, in so far as made for the other land coloured red on the said Ordnance Survey Sheet or Plan, and marked D, M, L, G, H on the said Plan; Fixes the term of entry to the land hereby assigned in the case of each Applicant as at Martinmas 1893; but that only if the wire fence before and aftermentioned has been by that date duly erected and completed; and, having also made inspection of the land assigned with a view to fixing the Fair Rent thereof, Finds and Declares that the Fair Rent of the same is £2, and that the proportion thereof, payable by each applicant in respect of this enlargement, is as set forth in the Schedule hereto annexed, which contains (1) the names of the applicants, (2) the rent of the land assigned due by each, (3) the present rent of each holding, and (4) the rent of each holding as enlarged: Finds that it is necessary to have a fence erected along the line marked D to B, thence from B to A, and from A to F on the said Ordnance Survey Sheet or Plan: Finds that the applicants have each undertaken to erect an adequate and sufficient six-wire fence in a workmanlike manner along the said line: Therefore Ordains the Applicants to proceed forthwith to the erection of said fence at sight and to the satisfaction of one of the Commissioners: Finds and Declares that the granting of the Application has not the effect of raising the annual value of the applicants' holdings respectively to a higher amount than £15 sterling each: Finds that the land assigned is part of the holdings of the applicants as crofters, and is subject to the provisions of the Act in terms of the 15th Section thereof: Finds and Declares that the rent of each holding as enlarged, appearing in the said Schedule, is a fixed rent within the meaning of Section 6 (2) of the Act: Reserves to parties to apply further herein, if so advised: Finds no expenses due to or by either party.

(Signed) †

“ P. B. MACINTYRE.”

The following is the Schedule referred to:—

APP. H (3)—COUNTY OF INVERNESS.

No.	Estate.	Date of Receipt by Commission.	Crofter.	Township or District.	Subject from which land taken and how occupied.	No. on Plan.	Extent of Land Assigned.			Shares in Pasture Assigned.	Rent of Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
							Arable.	Outrun.	Pasture.					
							Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	
1	North Uist (Sir John W. P. Campbell-Orde, Bart., Proprietor)	1887 Jan. 29	Neil Macdougall	Lochmaddy	Land in the occupancy of the Landlord		...	...			0 8 0	2 0 0	2 8 0	
2	"	"	Ewen Macdonald, jr.	"	"		...	"			0 8 0	1 0 0	1 8 0	
3	"	"	Donald Macdonald	"	"		...	...			0 8 0	0 15 0	1 3 0	
4	"	"	Donald Mackiggan	"	"		...	...			0 8 0	0 15 0	1 3 0	
5	"	"	Ewen Macdonald	"	"		..	...			0 8 0	0 15 0	1 3 0	

[b] BORNESKITAIG, &c. APPLICATION, SKYE.

This was an Application by Angus Maclean and others, Balgown, and crofters of the townships of Borneskitaig, Kilvaxter, Herbusta, Peingown, and Hungladder, on the Estate of Kilmuir, Skye, the property of the late Mr G. A. Baird (who died since the Application was lodged), and presently possessed by his trustees. At the inquiry an agreement was lodged in process in which the claim of the applicants was conceded by the said respondent, upon certain conditions therein enumerated, to which the applicants agreed, and restricting the questions to be dealt with by the Commission under the said Application, in so far as to limit them to a Fair Rent to be fixed for the land assigned under the said agreement. The following is the Order in the case, viz. :—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties interpones authority to the agreement produced and marked B/1310, and Finds and Declares, in terms thereof, that there has been assigned by the late respondent to the applicants, being crofters of Herbusta, Peingown, Hungladder, Borneskitaig, Kilvaxter, and Balgown, in enlargement of their holdings, the hill pasture shaded pink and coloured by a red line on the Plan produced and marked G/1310, and which land extends to 135 acres green pasture and 806 acres hill pasture, being 941 acres or thereby in all: Finds and Declares, under Section 15 of the Act, that the same forms part of the holdings to which it has been assigned, and is subject to the whole provisions of the Acts relative to crofter holdings: Finds and Declares that the annual rent or value of the said assigned land amounts to £70, 17s. 6d. sterling, divisible into shares as after mentioned: Finds and Declares that this assignment of land has not the effect of raising the annual value of the applicants' holdings respectively to a higher amount than £15 sterling each: Finds that the Application of Malcolm Maclean, Mary Macmillan, Innkeeper, and the Rev. D. A. Macdonald are incompetent, and accordingly dismisses this Application, in so far as made by them: *Quoad ultra* Sustains the same: Reserves to the present respondents the souming of 32 sheep in respect of the holdings or subjects presently occupied and possessed by the said applicants, Malcolm Maclean, Mary Macmillan, and the Rev. D. A. Macdonald: Finds, further, that according to the said agreement each crofter in the townships of Balgown, Kilvaxter, Herbusta, and Peingown is to have a souming of 10 sheep, and each crofter in the townships of Borneskitaig and Hungladder a souming of six sheep per lot: Finds that, since the said agreement was executed, exception has been taken by certain of the applicants to the said souming therein set forth, and that it is proposed by them to have the grazing rights on the said hill pasture placed on a different basis: But Finds that this matter is not competently before the Commissioner, being excluded from his consideration by the terms and provisions of the foresaid agreement under which parties are bound: Finds and Declares that the only matter remitted to the Commissioner under the said agreement is the fixing of the Fair Rent: Therefore Finds and Declares, accordingly, that the rent payable by the crofters of Balgown, Kilvaxter, Herbusta, and Peingown, in respect of the said enlargement, and the rent payable by the crofters of Borneskitaig and Hungladder, are all as stated in the Schedule hereto annexed, which sets forth (1) the names of the applicants, (2) the numbers of the crofts, (3) the share or souming allotted to each under the foresaid agreement, (4) the rent of the land assigned due by each, (5) the rent of each present holding, and (6) the rent of each holding as enlarged: Finds and Declares that the assignment hereby dealt with has not the effect of raising the annual value of the applicants' holdings respectively to a higher amount than £15 sterling each: Finds and Declares that the rent of each holding as enlarged, appearing in the said Schedule, is a fixed rent within the meaning of Section 6 (2) of the Act: Reserves to parties to apply further, if so advised: Finds no expenses due to or by either parties.

(Signed)

“P. B. MACINTYRE.”

The following is the Schedule referred to :—

APP. H (3)—COUNTY OF INVERNESS—(continued)

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	Extent of Land Assigned.	Share or Sounding allotted to each.	Rent of the Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
1	Kilmuir . (Trustees of George Alexander Baird, Proprietors)	1892 Nov. 23	1893 Aug. 3	Widow Mary Beaton	11 Balgown	Monkstadt Farm, let to a Tenant	Acres. 135 green pasture, 806 hill.	5 Sheep	£ s. d. 0 12 6	£ s. d. 4 7 0	£ s. d. 4 19 6	
2	"	"	"	John Budge	12 "	"		5 "	0 12 6	3 18 0	4 10 6	
3	"	"	"	Angus Maclean	8 "	"		10 "	1 5 0	8 0 0	9 5 0	
4	"	"	"	John Gillies	4 "	"		10 "	1 5 0	6 0 0	7 5 0	
5	"	"	"	Reserved to Landlords in respect of	11 12 "	"		10 "	1 5 0	4 7 0	5 12 0	
6	"	"	"	Heirs of Norman Matheson	1 Kilvaxter	"		10 "	1 5 0	9 0 0	10 5 0	
7	"	"	"	Donald Matheson	2 "	"		10 "	1 5 0	9 10 0	10 15 0	
8	"	"	"	Widow Marion Macdonald	3 "	"		10 "	1 5 0	9 15 0	11 0	
9	"	"	"	Widow Janet Macdonald	14 "	"		5 "	0 12 6	3 10 0	4 2 6	
10	"	"	"	Malcolm Gillies	14 "	"		5 "	0 12 6	3 15 0	4 6	
11	"	"	"	Widow Ann Budge	16 "	"		5 "	0 12 6	3 5 0	3 17 6	
12	"	"	"	Alexander Macdonald	7 "	"		10 "	1 5 0	4 9 0	5 14 0	
13	"	"	"	Peter Nicolson	8 "	"		10 "	1 5 0	7 0 0	8 5 0	
14	"	"	"	Widow Catherine Macdonald	9 & 10 "	"		10 "	1 5 0	7 0 0	8 5	
15	"	"	"	Alexander Macleod (Heirs of)	11 "	"		10 "	1 5 0	3 10 0	4 15 0	
16	"	"	"	Mrs Mary Macleod and Samuel Nicolson	12 "	"		10 "	1 5 0	3 0 0	4 5 0	
17	"	"	"	Reserved to Landlords in respect of	5 "	"		10 "	1 5 0	10 0 0	11 5 0	
18	"	"	"	Donald Beaton	1 Herbusta	"		10 "	1 5 0	5 10 0	6 15 0	
19	"	"	"	William Macarthur	12 "	"		5 "	0 12 6	3 10 0	4 2 6	

APP. H (3)—COUNTY OF INVERNESS—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	Extent of Land Assigned.	Share or Sowing allotted to each.	Rent of the Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
20	Kilmuir (Trustees of George Alexander Baird, Proprietors)	1892 Nov. 23	1893 Aug. 3	Donald Macinnes .	½2 Herbusta .	Monkstadt Farm, let to a Tenant	Acres. 135 green pasture, 806 hill pasture.	5 Sheep	£ s. d. 0 12 6	£ s. d. 2 10 0	£ s. d. 3 2 6	
21	"	"	"	John Mackenzie .	3 "	"		10 "	1 5 0	5 12 0	6 17 0	
22	"	"	"	Widow Ann Macdonald	4 "	"		10 "	1 5 0	4 4 0	5 9 0	
23	"	"	"	John Macintosh .	5 "	"		10 "	1 5 0	4 12 0	5 17 0	
24	"	"	"	Widow Mary Macleod .	6 "	"		10 "	1 5 0	3 15 0	5 0 0	
25	"	"	"	Widow Ann Macmillan .	7 "	"		10 "	1 5 0	5 10 0	6 15 0	
26	"	"	"	Widow Christy Macdonald	8 "	"		10 "	1 5 0	5 3 0	6 8 0	
27	"	"	"	Angus and Norman Nicol-son	1 Peingown .	"		10 "	1 5 0	10 10 0	11 15 0	
28	"	"	"	Angus Mackenzie .	½2 "	"		5 "	0 12 6	5 7 0	5 19 6	
29	"	"	"	Murdo Mackenzie .	½2 "	"		5 "	0 12 6	5 7 0	5 19 6	
30	"	"	"	Donald Graham .	½ "	"		10 "	1 5 0	10 10 0	11 15 0	
31	"	"	"	Christina Nicolson .	1 Borneskitaig	"		6 "	0 15 0	2 10 0	3 5 0	
32	"	"	"	John Lawrie .	2 "	"		6 "	0 15 0	2 12 0	3 7 0	
33	"	"	"	Angus Mackinnon .	3 "	"		6 "	0 15 0	2 12 0	3 7 0	
34	"	"	"	Murdo Macraill .	4 "	"		6 "	0 15 0	2 15 0	3 10 0	
35	"	"	"	Murdo Mackenzie .	5 "	"		6 "	0 15 0	2 12 0	3 7 0	
36	"	"	"	Murdo Macleod .	6 "	"		6 "	0 15 0	2 10 0	3 5 0	
37	"	"	"	Alexander Mackenzie	9 & 27 "	"		12 "	1 10 0	5 0 0	6 10 0	
38	"	"	"	Ann Munro .	10 "	"		6 "	0 15 0	2 5 0	3 0 0	
39	"	"	"	Donald Macpherson	11 "	"		6 "	0 15 0	2 12 0	3 7 0	
40	"	"	"	John Martin .	14 "	"		6 "	0 15 0	2 15 0	3 10 0	

APP. H (3)—COUNTY OF INVERNESS—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	Extent of Land Assigned.	Share or Sounding allotted to each.	Rent of the Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
41	Kilmuir (Trustees of George Alexander Baird, Proprietors)	1892 Nov. 23	1893 Aug. 8	Malcolm Mackenzie	16 & 41 Borneskitaig	Monketadt Farm, let to a Tenant	Acres. 135 green pasture, 806 hill pasture	12 Sheep	£ s. d. 1 10 0	£ s. d. 6 0 0	£ s. d. 7 10 0	
42	"	"	"	Flora Stewart and Catherine Budge	17	"		6 "	0 15 0	2 15 0	3 10 0	
43	"	"	"	Donald Macpherson	18	"		6 "	0 15 0	2 12 0	3 7 0	
44	"	"	"	Mrs Flora Mackay	19	"		6 "	0 15 0	2 15 0	3 10 0	
45	"	"	"	Alexander Gillies	20	"		6 "	0 15 0	2 15 0	3 10 0	
46	"	"	"	Widow Marion Macdonald and Donald Macpherson	21	"		6 "	0 15 0	3 0 0	3 15 0	
47	"	"	"	Donald Macnab	22	"		6 "	0 15 0	2 15 0	3 10 0	
48	"	"	"	Widow Ann Macpherson	24	"		6 "	0 15 0	2 16 0	3 11 0	
49	"	"	"	Widow Marion Macdonald	25	"		6 "	0 15 0	3 3 0	3 18 0	
50	"	"	"	Widow Janet and Alexander Mackenzie	26	"		6 "	0 15 0	3 3 0	3 18 0	
51	"	"	"	Ronald Macdonald.	28	"		6 "	0 15 0	3 2 0	3 17 0	
52	"	"	"	Andrew Macnab	29	"		6 "	0 15 0	3 3 0	3 18 0	
53	"	"	"	Hector Munro	30	"		4 "	0 15 0	3 5 0	4 0 0	
54	"	"	"	John Nicolson	31	"		6 "	0 15 0	3 0 0	3 15 0	
55	"	"	"	Donald Macleod	32	"		6 "	0 15 0	2 17 0	3 12 0	
56	"	"	"	Donald Mackenzie.	33	"		6 "	0 15 0	2 16 0	3 11 0	
57	"	"	"	Angus Macpherson	34	"		6 "	0 15 0	2 16 0	3 11 0	
58	"	"	"	Duncan, Donald, and Murdo Gillies	37, 38 & 39	"		18 "	2 5 0	9 15 0	12 0 0	
59	"	"	"	Widow Catherine Macleod	43	"		6 "	0 15 0	2 10 0	3 5 0	

APP. H (3)—COUNTY OF INVERNESS—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	Extent of Land Assigned.	Share or Sowing allotted to each.	Rent of the Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
60	Kilnair . . . (Trustees of George Alexander Baird, Proprietors)	1892 Nov. 23	1893 Aug. 3	Duncan Macphée and Donald Buchanan	44 & 45 Borneskitaig	Monkstadt Farm, let to a Tenant	Acres. 135 green pasture, 806 hill pasture	12 Sheep	£ s. d. 1 10 0	£ s. d. 4 15 0	£ s. d. 6 5 0	
61	"	"	"	Jonathan Maclean .	46 "	"		6 "	0 15 0	2 2 0	2 17 0	
62	"	"	"	John Lamont .	47 "	"		6 "	0 15 0	2 2 0	2 17 0	
63	"	"	"	John Macdonald .	48 & 49 "	"		12 "	1 10 0	3 10 0	5 0 0	
64	"	"	"	Widow Ann Munro .	50 "	"		6 "	0 15 0	2 10 0	3 5 0	
65	"	"	"	Reserved to Landlord in respect of	13 & 36 "	"		12 "	1 10 0	3 0 0	4 10 0	
66	"	"	"	Even Mackenzie .	4 Hungladder	"		6 "	0 15 0	3 2 0	3 17 0	
67	"	"	"	Widow Ann Mackinnon	5 "	"		6 "	0 15 0	3 2 0	3 17 0	
68	"	"	"	Widow Ann Mackinnon and Donald Ross	6 "	"		6 "	0 15 0	3 2 0	3 17 0	
69	"	"	"	James Mackinnon .	7 "	"		6 "	0 15 0	2 16 0	3 11 0	
70	"	"	"	Donald Macinnes .	8 "	"		6 "	0 15 0	3 2 0	3 17 0	
71	"	"	"	Donald Campbell .	9 "	"		6 "	0 15 0	3 4 0	3 19 0	
72	"	"	"	Martin Macleod .	11 "	"		6 "	0 15 0	3 0 0	3 15 0	
73	"	"	"	Jonathan Macdonald	12 "	"		6 "	0 15 0	3 0 0	3 15 0	
74	"	"	"	Alexander Macleod	13 "	"		6 "	0 15 0	3 0 0	3 15 0	
75	"	"	"	Murdo Mackinnon .	14 "	"		6 "	0 15 0	3 3 0	3 18 0	

[c] GLASPHEIN, &c. APPLICATION, SKYE.

This was an Application by John Campbell, Brogaig, and certain other crofters in that township and the townships of Glasphein and Digge, on the Estate of Kilmuir foresaid. An agreement, similar to that referred to in the immediately preceding case, was also lodged here, restricting the Application as therein before mentioned. The following is the Order in this case, viz.:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, Finds and Declares that the hill pasture, extending to 715 acres or thereby, and contained within the lines coloured red on the Plan produced and marked B/1302, has been granted to the applicants in enlargement of their holdings by the late respondent, and was fenced off by him: Finds and Declares, under Section 15 of the Act, that the same forms part of the holdings to which it has been assigned, and is subject to the whole provisions of the Acts relative to crofters holdings: Finds and Declares that the annual rent or value of the land assigned amounts to £22 sterling, whereof £1 is payable in respect of each share, and 10s. in respect of each half share, all as after-mentioned in the Schedule annexed hereto: Finds and Declares that the said enlargement was made under and in terms of the agreement, produced and marked A/1302: Finds and Declares that this assignment of land has not the effect of raising the annual value of the applicants' holdings to a higher amount than £15 sterling each: Reserves to the respondents one full share in the land assigned in respect of the holding, No. 5 Digge, all as stated in the Schedule hereto annexed, which sets forth (1) the names of the applicants, (2) the number of the holdings, (3) the township, (4) the share or half share held by each, (5) the rent of the land assigned due by each, (6) the rent of each present holding, and (7) the rent of each holding as enlarged: Finds and Declares that the rent of each holding as enlarged, appearing in the said Schedule, is a fixed rent within the meaning of Section 6 (2) of the Act: Reserves to parties to apply further, if so advised: Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

The following is the Schedule referred to:—

APP. H (3)—COUNTY OF INVERNESS—PARISH OF KILMUIR.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan.	Extent of Land Assigned.			Shares in Pasture Assigned.	Rent of Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
								Arable.	Outrun.	Pasture.					
								Ac. Ro. Po.	Ac. Ro. Po.	Acres.		£ s. d.	£ s. d.	£ s. d.	
1	Kilmuir (Trustees of G. A. Baird, Proprietors)	1892 Oct. 6	1893 Aug. 3	John Campbell	11 Brogaig	Sartle Farm, let to a Tenant		...	...	715	1	0 10 0	2 3 0	2 13 0	
2	"	"	"	Norman Nicolson	11 "			...	...		1	0 10 0	2 3 0	2 13 0	
3	"	"	"	John Macpherson	2 "			...	...		1	1 0 0	4 5 0	5 5 0	
4	"	"	"	Malcolm Maclean, junior	3 "			...	...		1	1 0 0	4 15 0	5 15 0	
5	"	"	"	Malcolm Maclean	14 "			...	...		1	0 10 0	2 8 0	2 13 0	
6	"	"	"	Murdo Lamont	14 "			...	...		1	0 10 0	2 4 0	2 14 0	
7	"	"	"	John Nicolson and Murdo Nicolson	6 "			...	...		1	1 0 0	5 0 0	6 0 0	
8	"	"	"	Samuel Nicolson	5 "			...	...		1	1 0 0	5 4 0	6 4 0	
9	"	"	"	Donald Nicolson	7 "			...	...		1	1 0 0	4 10 0	5 10 0	
10	"	"	"	Widow Margaret Maclean and Widow Catherine Matheson	8 "			...	...		1	1 0 0	4 0 0	5 0 0	
11	"	"	"	Alexander Nicolson.	1 Glasgaphin			...	...		1	0 10 0	3 0 0	3 10 0	
12	"	"	"	John Macdonald	2 "			...	...		1	0 10 0	3 5 0	3 15 0	
13	"	"	"	Malcolm Nicolson	3 "			...	...		1	0 10 0	3 5 0	3 15 0	
14	"	"	"	Peter Cameron	4 "			...	...		1	0 10 0	3 5 0	3 15 0	
15	"	"	"	John Nicolson	5 "			...	...		1	0 10 0	3 0 0	3 10 0	
16	"	"	"	Widow Marion Nicolson	6 "			...	...		1	0 10 0	2 15 0	3 5 0	
17	"	"	"	Donald Macdonald	7 & 8 "			...	...		1	1 0 0	5 6 0	6 6 0	
18	"	"	"	Donald Macleod	10 Digge			...	...		1	0 10 0	3 10 0	4 0 0	
19	"	"	"	John Maclean	10 "			...	...		1	0 10 0	3 10 0	4 0 0	
20	"	"	"	Roderick Macdonald	9 "			...	...		1	1 0 0	7 5 0	8 5 0	

APP. H (3)—COUNTY OF INVERNESS—CROFTING PARISH OF KILMUIR—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan.	Extent of Land Assigned.				Shares in Pasture Assigned.	Rent of Land Assigned due by each.	Present Rent of each Holding.	Rent of each Holding as Enlarged.	Observations.
								Arable.	Outrun.	Pasture.	Acres.					
21	Kilmuir (Trustees of G. A. Baird, Proprietors),	1890 Oct. 6	1892 Aug. 8	Murdo Macleod	18 Digge	Sartle Farm, let to a Tenant		Ac. Ro. Po. ...	Ac. Ro. Po. ...	715	1 1/2	£ 0 10 0	£ 3 9 0	£ 3 19 0		
22	"	"	"	William and Lachlan Lamont	18 "			...	...		1 1/2	0 10 0	3 9 0	3 19 0		
23	"	"	"	Lachlan Lamont	7 "			...	...		1	1 0 0	6 8 0	7 8 0		
24	"	"	"	Malcolm Martin and Alexander Martin	6 "			...	...		1	1 0 0	6 4 0	7 4 0		
25	"	"	"	John Macarthur	14 "			...	...		1 1/2	0 10 0	3 7 0	3 17 0		
26	"	"	"	John Macpherson	14 "			...	...		1 1/2	0 10 0	3 7 0	3 17 0		
27	"	"	"	Widow Catherine Lamont	13 "			...	...		1 1/2	0 10 0	3 6 0	3 16 0		
28	"	"	"	Widow Margaret Lamont	13 "			...	...		1 1/2	0 10 0	3 6 0	3 16 0		
29	"	"	"	John Mackinnon	2 "			...	...		1	1 0 0	6 6 0	7 6 0		
30	"	"	"	Kenneth and Charles Gillies	1 "			...	...		1	1 0 0	6 10 0	7 10 0		
31	"	"	"	Reserved to Landlord	5 "			...	...		1	1 0 0	6 5 0	7 5 0		

(4) COUNTY OF SUTHERLAND.

SKIBO APPLICATION.

Donald Matheson and twenty-four other crofters from the townships of Acharry Muir, &c., on the Estate of Skibo, presently in possession of Mr George Auldjo Jamieson, C.A., Edinburgh, as trustee of Mr Evan Charles Sutherland, lodged this Application for Enlargement of their Holdings by having assigned to them certain grazing land forming part of the said estate. Objection was taken to the same on various grounds, and among other reasons, that the land sought to be assigned constituted the whole unlet portion of the said estate, and was struck at by Section 13 (4) of the Act; that the said subject was of less annual value than £100 sterling; and material damage, &c., Section 13 (3) (b). The Commissioner repelled the whole objections, and granted the Application. The following is the Order dealing therewith, viz:—

“EDINBURGH, 25th March 1893.

“The Commissioner having heard parties, and considered the evidence adduced on the conjoined Applications respectively R.N. 357 and 762, Finds that the applicants ask for enlargement of their holdings by taking certain grazing land forming part of the Estate of Skibo, being the land within the line coloured red on the Plan or Tracing produced and marked L/762, and extending to 2645 acres or thereby, formerly in the occupancy and possession of Mr Evan Charles Sutherland, and now under the respondent, Mr George Auldjo Jamieson, C.A., Edinburgh, as his trustee: Finds that the applicants are crofters within the scope and meaning of the Act: Finds that the land applied for is contiguous or near to their holdings, is suitable for purposes of enlargement, and that the Application is reasonable: Finds that they are able properly to stock the same: Finds that the Application is objected to as set forth in the Minute of Objection marked E/357, and Supplementary Minute of Objection marked G/357: Finds that the said objections are similar in nature, scope, and terms to those urged in the relative Application R.N. 222, the Final Order in which deals with the said objections: Repels the same as stated to this Application, but under reference to the terms of the said Order: Finds, also, that prior to the hearing of this Application the respondent made offer of the land asked to the present applicants or some of them, but not under the Act of Parliament, and that if this offer had been accepted, the exercise of sporting rights would not have been in a materially different position from that which these rights occupy in a question of assignment under this Application: Assigns to the applicants the foresaid pasture land, extending as above-mentioned to 2645 acres or thereby, all as contained within the red line delineated on the Plan or Tracing foresaid: Finds that the annual value of the said land is £45 sterling, the proportion thereof falling to be paid by each applicant, being set forth in the Schedule hereto annexed, which states (1) the names of the applicants, (2) the number of shares to which each is entitled, (3) the rent of the land assigned due by each, (4) the rent of each holding, and (5) the rent of each holding as enlarged: Finds that this assignment will not have the effect of raising the applicants' rents to an amount higher than £15 sterling each per annum: And Finds and Declares that the said assigned land forms part of their holdings under Section 15 of the Act: Allows entry to the said land by the applicants not later than Whitsunday 1893: Reserves to parties to apply further as to the carrying out hereof, if so advised: Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

“*Note.*—The Commissioner has not thought it necessary to deal in detail with the various objections stated in the Minute marked E/357, and Supplementary Minute marked G/357, as he finds that these objections are in the same or similar terms to those lodged in the relative Application R.N. 222. He is of opinion that these objections are not of any more weight in the present than they were held to be in that other Application, and accordingly the Order therein may be taken as setting forth his opinion on these objections as stated in the present case. It does not appear to him that the supplementary objection above-mentioned is of importance.

It is suggested in the said Minute marked E/357, that, in the event of the Application being granted in whole or in part, Rules and Regulations should be drawn up by the Commissioners for the proper management and working of the common grazing under and in terms of the Grazings Act of 1891. It is hardly necessary for the Commissioner to add that such a course would be of great benefit to all concerned; and that in the event of an Application being presented under that Act, either by the applicants or the respondent, it will receive full consideration.

(Initialed)

“P. B. M.”

The following is the Schedule referred to:—

APP. H (4)—COUNTY OF SUTHERLAND.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Land Assigned—	Share in Land Assigned.	Rent of Land Assigned due by each.	Fair Rent of Present Holding.	Rent of each Holding as Enlarged.	Observations.
1	Skibo (George Auldjo Jamieson, C.A., as Trustee, Pro- prietor)	1888 April 16	1893 March 25	John Ross	Achu	Pasture 2645 Acres	2	£ s. d. 0 15 0	£ s. d. 1 10 0	£ s. d. 2 5 0	
2	"	"	"	William Ross ¹	"		2½	2 5 0	5 7 0	7 12 0	
3	"	"	"	Alexander Mackay	"		2	2 0 0	5 0 0	7 0 0	
4	"	"	"	James Chisholm	Spinningdale .		2½	2 5 0	5 10 0	7 15 0	
5	"	"	"	David Graham	"		3	3 0 0	6 18 0	9 13 0	
6	"	"	"	Gilbert Ross	Acharry Muir .		1½	1 10 0	4 0 0	5 10 0	
7	"	"	"	Sinclair Moore	"		2½	3 10 0	7 10 0	11 0 0	
8	"	"	"	Widow Margaret Murray	"		2	0 15 0	1 14 0	2 9 0	
9	"	"	"	Donald Ross	Rhemore		3	3 0 0	7 0 0	10 0 0	
10	"	"	"	Donald Matheson	Clashmugach .		1½	1 10 0	13 6 0	14 13 0	
11	"	"	"	David Campbell	Acharry Muir .		1½	1 10 0	3 5 0	4 15 0	
12	"	"	"	Donald Mackay	Achu		3½	3 10 0	7 17 2	11 7 2	
13	"	"	"	Thomas Munro	Acharry Muir .		1	1 0 0	2 13 0	3 13 0	
14	"	"	"	William Mackintosh	"		1½	1 5 0	2 13 0	4 3 0	
15	"	"	"	Widow George Dingwall	"		1	1 0 0	2 5 0	3 5 0	

APP. H (4)—COUNTY OF SUTHERLAND—(continued).

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Extent of Land Assigned.	Share in Land Assigned.	Rent of Land Assigned due by each.	Fair Rent of Present Holding.	Rent of Each Holding as Enlarged.	Observations.
16	Skibo (George Auldjo Jamieson, C.A., as Trustee, Proprietor)	1888 April 16	1893 Mar. 25	Colin Macleod	Spinningdale	Pasture. 2645 Acres.	1½	£ s. d. 1 5 0	£ s. d. 3 0 0	£ s. d. 4 5 0	
17	"	"	"	Catherine Mackay.	Acharry Muir		1	1 0 0	2 3 6	3 3 6	
18	"	"	"	William Calder	Spinningdale		1½	1 10 0	3 10 0	5 0 0	
19	"	"	"	Hugh Calder	"		3	3 0 0	7 0 0	10 0 0	
20	"	"	"	George Ross	Achu		¾	0 15 0	1 10 0	2 5 0	
21	"	"	"	George Munro	Spinningdale		2	2 0 0	4 15 0	6 15 0	
22	"	"	"	John Murray	Achu		2½	2 5 0	5 5 0	7 10 0	
23	"	"	"	John Ross	Spinningdale		2½	2 10 0	6 8 0	8 18 0	
24	"	"	"	Widow William Gunn	"		1½	1 5 0	2 18 0	4 3 0	
25	"	"	"	Widow George Murray	Acharry Muir		¾	0 15 0	1 10 0	2 5 0	

(5) COUNTY OF ROSS AND CROMARTY.

ALTNASUTH APPLICATION.

Widow Mary Macrae or Mackenzie and Donald Mackenzie, and several other crofters in the township of Altnasuth, on the Estate of Lochalsh, the property of Sir Kenneth J. Matheson, Bart., applied for enlargement of their holdings by taking from the Farm of Conchra, on the said estate, the portion thereof locally known as Meall-na-Peighinn and Fank Park. Objection was taken by the respondent, on the ground of material damage to the letting value of the remainder of the said farm, in the event of the Application being granted as made. But, at the same time, it was stated he was willing to depart from this objection if the applicants would restrict their claim to Meall-na-Peighinn, extending to 83 acres or thereby, in which case the respondent would supply the material necessary for suitably fencing off the same from the rest of the Farm of Conchra free of cost. Further procedure under the Application was in the meanwhile delayed in order that the applicants might consider this tender; and, on 27th January 1892, the Commissioner issued an Order calling upon the applicants to lodge a Minute as to whether, in the event of the said material being supplied, they were prepared to erect the fence. A Minute in the affirmative was lodged; and the Commissioner, on 8th March following, ordained the respondent to deliver at the steamers' landing place, Dornie, the whole materials necessary for the erection of the said fence.* In the interval further procedure under the Application was stayed by an Appeal against the said Order taken by the proprietor. This appeal was subsequently withdrawn, and the Commissioner thereafter issued the subjoined Order, from which it will be seen the applicants have had assigned to them only the portion of the said Farm of Conchra known as Meall-na-Peighinn aforesaid, while the Application, in so far as regards the Fank Park, has been refused:—

“EDINBURGH, 30th December 1893.

“The Commissioners having resumed consideration of this Application, whole productions, and relative Fair Rent Application R.N. 289, Find that the applicant, Donald Mackay, No. 11 hereof, at the hearing of the Fair Rent Application R.N. 289, claimed to be entered as tenant of the holding at Altnasuth, in succession to Widow Margaret Maclellan, his wife's grandmother, and that the respondent, Sir Kenneth James Matheson, Bart., consented to accept him as crofter in the holding, in room and stead of the deceased, provided he produced and put in process a letter of renunciation in his favour from the person legally entitled to take up the succession: Find that the said Donald Mackay has failed to lodge such letter of renunciation, therefore dismiss his Application: Find that the respondent objects to the Application, in so far as it relates to the part of the Farm of Conchra known as the ‘Fank Park,’ on the ground that it cannot be assigned without material damage to the letting value of the remainder of the said farm, and is otherwise unsuitable: Sustain the said objection, and dismiss the Application, in so far as applicable to the said ‘Fank Park’: *Quoad ultra* Find the Application competent: Find that the respondent at the hearing agreed that the land locally known as ‘Meall-na-Peighinn,’ and extending to 83 acres or thereby (but excepting, in so far as may be necessary, the portion of land then and now in the occupancy and possession of Lachlan Matheson), should be assigned to the applicants on condition that the necessary fencing should be erected by them, the respondent supplying the materials for the erection thereof: Find, under and in terms of the Minute for the respondent marked J/1288, that the fence ordered by the Commissioners to be erected along the lines marked A, B, C, and D on the Plan or Tracing produced, and marked c/1288 in the Order of 8th March 1892, has been duly erected to the satisfaction of the respondent: Find that this portion of land may be assigned to the applicants without material damage to the letting value of the remainder of the farm: Accordingly assign (with the reservations underwritten) to the applicants, ten in number, viz.:—(1) Widow Mary Macrae or Mackenzie and Donald Mackenzie, (2) Donald Mackenzie (Alexander), (3) Alexander Chisholm, (4) Widow Sarah Macrae, (5) Widow Mary Mackay, (6) John Mackenzie, (7) John Matheson, (8) Donald Mackenzie, senior, (9) William Mackenzie, (10) Kenneth Mackay, that portion of the Farm of Conchra known as ‘Meall-na-Peighinn,’ and extending to 83 acres or thereby as aforesaid, all as the same is coloured yellow on the said Plan produced and marked c/1288, and signed as relative hereto by the Commissioners and Junior Assistant Clerk of even date herewith, to be held by them under the Act, and to be divided into twelve shares of equal value, each applicant of the said ten applicants taking one share: Find that the land occupied and possessed by the said Lachlan Matheson is excluded herefrom: Reserve to the respondent, the said Sir Kenneth J. Matheson, the two remaining shares, one in respect of the holding lately occupied by the said Widow Margaret Maclellan, and now by the said Donald Mackay, No. 11 hereof, and the other for the holding occupied by John Macrae, a non-applicant: Find and Declare, under Section 15 of the Act, that the land hereby assigned forms part of the applicants' holdings, and is subject to the provisions of the Act relative to crofters holdings: Find that the granting of this Application will not have the effect of raising the annual value of the applicants' holdings respectively to a higher amount than £15 sterling each: Find that the total annual value of the land hereby assigned, including the two shares reserved as aforesaid, is £8, 8s. sterling, whereof the sum of 14s. sterling, in name of rent, falls to be paid by each of the said applicants, and to be added to the Fair Rent already fixed for each, all as set forth in the Schedule hereto annexed, containing (1) the names of the applicants, (2) the rent of the land assigned due by each, (3) the rent of each applicant's present holding, and (4) the rent of each holding as enlarged: Ordain the applicants and respondent to maintain and uphold the fence running along the points A, B, C, D on the said Plan marked c/1288, at their joint expense: Find that the respondent gave entry to the said land hereby assigned as at and from the term of Whitsunday 1892, which, notwithstanding the date hereof, shall be held and deemed to be the date of entry thereto: Reserve to parties to apply further as to the carrying out hereof.

(Signed)

“DAVID BRAND.

“P. B. MACINTYRE.”

The following is the Schedule referred to:—

* See Report for 1892, page 192.

APP. H (5)—COUNTY OF ROSS AND CROMARTY.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan.	Extent of Land Assigned.		Share in Land Assigned.	Rent of Land Assigned due by each.	Fair Rent of Present Holding.	Rent of each Holding as Enlarged.	Observations.
								Pasture.	Acres		£ s. d.	£ s. d.	£ s. d.	
1	Lochalsh. (Sir K. J. Matheson, Bart., Proprietor)	1891 Oct. 22	1893 Dec. 30	Widow Mary Macrae or Mackenzie and Don- ald Mackenzie	Altnasuth	Farm of Con- chra, let to tenant		83	...		0 14 0	2 10 0	3 4 0	
2	"	"	"	Donald Mackenzie (Alexander)	"			...	...		0 14 0	1 6 0	2 0 0	
3	"	"	"	Alexander Chisholm	"			...	...		0 14 0	1 6 0	2 0 0	
4	"	"	"	Widow Sarah Macrae	"			...	...		0 14 0	1 6 0	2 0 0	
5	"	"	"	Widow Mary Mackay	"			...	...		0 14 0	1 6 0	2 0 0	
6	"	"	"	John Mackenzie	"			...	...		0 14 0	1 6 0	2 0 0	
7	"	"	"	John Matheson	"			...	...		0 14 0	2 10 0	3 4 0	
8	"	"	"	Donald Mackenzie, senior	"			...	...	Equally.	0 14 0	2 10 0	3 4 0	
9	"	"	"	William Mackenzie	"			...	...		0 14 0	1 6 0	2 0 0	
10	"	"	"	Kenneth Mackay	"			...	...		0 14 0	1 6 0	2 0 0	
11	"	"	"	Share reserved to Land- lord in respect of Holding occupied by Donald Mackay	"			...	...		0 14 0	...	...	
12	"	"	"	Share reserved to Land- lord in respect of Holding occupied by John Macrae	"			...	...		0 14 0	...	...	

[B]—APPLICATIONS REFUSED

(1) COUNTY OF ARGYLL

ARDGOUR APPLICATION.

Lachlan Maclean and others, Ardgour, applied for enlargement of their holdings by taking land from the Farm of Sallachan. The proprietors, the Tutors of Alexander John Hew Maclean, objected to the Application, *inter alia*, in respect of material damage to the letting value of the remainder of the said farm. The Commissioner sustained the objection on that head, and refused the Application. The following is the Order:—

“KIRKWALL, 11th July 1893.

“The Commissioner having heard parties inspected the ground, and resumed consideration of this Application, Finds that the same is objected to, *inter alia*, in respect that the land applied for cannot be assigned without material damage to the letting value of the remainder of the farm within the meaning of Section 13 (3) (b) of the Act: Finds that the low or shore side ground of the farm, including the land applied for, extends to 120 acres or thereby, while the hill ground, which is of great height generally, is over 10,000 acres in extent: Finds, accordingly, that if the land applied for were cut off from the farm, the same would be deprived of a portion of ground necessary for sheep and other stock during severe weather, and indispensably requisite to the due working and management of the farm as a whole: Finds that this result would constitute material damage within the meaning of Section 13 (3) (b) of the Act: Accordingly Sustains the second objection stated in the Minute for the respondent marked 685/c, and dismisses the Application: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

(2) COUNTY OF INVERNESS.

(a) BALEMARTIN APPLICATION.

This was an Application by Alexander Macdonald and four others, Balemartin, North Uist, against Sir John Campbell-Orde, Bart. as proprietor, for enlargement of their holdings by having assigned to them the portion of the Farm of Balelone, commonly known as Garryennish. Objection was taken to the competency of the same, on the ground that the said respondent was not proprietor of the said subjects, he having disposed the same to his eldest son, Mr Arthur John Campbell-Orde, by Disposition or other Deed of Conveyance in his favour. The said respondent failed to produce the said alleged Conveyance in support of the said objection as undertaken by him, but lodged instead a Deed or Document purporting to be a Draft thereof. This the Commissioner held was not sufficient to support the said objection, and repelled the same accordingly. But in respect the Commissioner was of opinion that the land sought was not available land within the meaning of the Act; and that even in the event of its being assigned, the applicants would not be able to properly stock the same, he refused the Application. The following is the Order, viz. :—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, Finds that the applicants ask for enlargement of their holdings by taking that portion of the Farm of Balelone, commonly known as Garryennish, and coloured red or brown on the Ordnance Survey Sheet or Plan produced and marked A/1104: Finds that the same is objected to by the respondent on the ground that the land applied for was not the property of the respondent, but had previously been conveyed by him to his eldest son, Arthur John Campbell-Orde: Finds that the respondent, in the course of the hearing, on 18th May 1893, undertook to lodge the Disposition or other Conveyance by him in favour of his said son within fourteen days from the said date: Finds that the respondent has failed to fulfil the said undertaking, but has lodged instead an alleged Draft Disposition by him in favour of his said son: Finds that this Draft cannot be taken as in lieu of the principal Conveyance, if such exists: Therefore Repels the objection stated by the respondent on that head, and Sustains the competency of the Application. On the other hand, Finds that the land applied for consists, as appears from the Ordnance Survey Sheet produced, of a narrow strip, extending to not less than three-quarters of a mile in length, which could not be assigned without removal of the subsisting fence, and the re-erection of the same, or erection of another fence instead, at sight and to the satisfaction of the Commissioner, and at considerable cost: Finds, further, that the applicants have failed to satisfy the Commissioner that they are able and willing to pay a Fair Rent for such land, and properly to stock the same under and in terms of Section 12 (2) of the Act. On these grounds, accordingly, refuses the Application: Finds no expenses due to or by either party.

(Signed)

“P. B. MACINTYRE.”

(b) ILLERAY APPLICATION, NORTH UIST.

This Application was by Donald Macdonald and four others, crofters in the township of Illeray North Uist aforesaid, to have assigned to them, in enlargement of their holdings, the neighbouring croft or holding known as Vorogay Island. The Commissioner, having regard to Section 16 of the Act, dismissed the Application as incompetent. The following is the Order:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties’ Procurators, Finds that the applicants ask for enlargement of their holdings by taking that portion of the lands of North Uist, commonly known as Vorogay Island Croft, together with the right of grazing thereto attached: Finds that the said Island Croft was formerly occupied and possessed by Donald Macdonald, who left the place some time ago: Finds that the same has since been let by the respondent to another tenant, who has entered on occupation and possession of the same at a rent of £5, 10s.: Finds that it is incompetent to grant an enlargement by assigning to crofters the lands of a neighbouring vacant croft, unless under and in terms of Section 16 of the Act, which Section does not apply to the present case: Therefore refuses the Application: Finds no expenses due to or by either party.”

(Signed)

“P. B. MACINTYRE.”

(c) BERNERA APPLICATION, HARRIS.

This Application by Donald Shaw and ten others, Rushgarry, Island of Bernera, in the Sound of Harris, was conjoined with another by Duncan Macaskill and certain other crofters from the same township, craving to have assigned to them, in enlargement of their holdings, part of the Farm of Borve, in the said Island. The proprietors, the Trustees of the Earl of Dunmore, objected that the annual letting value of the said Farm of Borve was less than £100. The Commissioner sustained this objection, and refused the Application. Subjoined is the Order:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, Finds that the applicants ask for enlargement of their holdings by taking the whole or part of the Farm of Borve: Finds that the Application is objected to under Section 13 (3) (c) of the Act on the ground that the rent or annual letting value of the said farm is less than £100: Finds that the rent of the same is £85 sterling: Therefore Sustains the objection, and dismisses the Application as incompetent.

(Signed)

“P. B. MACINTYRE.”

“*Note.*—The lands applied for in this case embrace the whole of the said Farm of Borve, and it is open to doubt, in view of Section 13 of the Act, whether the whole of the said farm can be assigned; but that point is of less importance in the present case, in view of the objection above sustained as to its rent or annual letting value.

(Initialed)

“P. B. M.”

(d) MILLIVAIG APPLICATION, SKYE.

Alexander Mackinnon and other crofters of Upper and Lower Millivaig, on the Estate of Glendale, the property of the Trustees of the late Sir John Macpherson Macleod, lodged an Application for enlargement of their holdings by taking from the Farm of Dibydale, &c., the portion of the said farm locally known as “Waterstein.” Various objections were stated to the Application being granted, and among others that the applicants were unable properly to cultivate or stock the land if assigned. The Commissioner held the objection on this head proved, and refused the Application. The Order is as follows:—

“DINGWALL, 3rd August 1893.

“The Commissioner having heard parties, and considered the evidence adduced, Finds that the Application is objected to on the ground stated in the Minute of Objection produced and marked B/969, *inter alia*, that the applicants have not paid the Fair Rents due by them, in respect of their present holdings, as fixed by the Crofters Commission on 14th May 1889, and are now in arrear to the extent of between one and two years’ rents: Finds that, on 15th January 1890, being the date of Application, and on 11th April 1893, being the date of hearing, the whole or almost the whole of the applicants were considerably in arrear of their Fair Rents fixed as aforesaid: Finds that the objection stated as aforesaid by the respondent is well founded: Finds that, on or about 10th July 1893, the letter, bearing date 6th July 1893, was received from the applicants’ agents, and is produced and marked B/969: Finds it is there stated that eleven of the applicants out of seventeen in all settled in full with the landlord: Finds that the failure of the applicants to make due payment of the Fair Rents falling due from term to term

leads the Commissioner to conclude that they are not 'both willing and able' to pay a Fair Rent for the land asked, and that, 'in the event of an Order for the letting thereof being made the applicants are able . . . properly to stock the same': Finds that this result is not materially affected by certain of the applicants, eleven in number, having in or about the beginning of July last settled in full with the landlord: Accordingly Sustains the objection as above set forth, and refuses the Application: Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

Note.—Although the applicants were much in arrear, both at the date when the Application was lodged and at the date of hearing, they apparently entertained the hope that when payment of arrears was made by a large portion of their number, the Commissioner would treat the objection stated to the Application on that ground as elided or overcome, but the Commissioner sees no sufficient reason for taking that view. It is expressly provided by the Act that an assignment of land is only to be made if the Commissioner who hears the Application is satisfied, both as to the will and as to the ability of the applicants to pay a Fair Rent for the land assigned, and properly to stock. In the present case it does not appear to him that the withholding of Fair Rents for a long period, and then making payment of arrears some months after the Application has been heard, is a course of procedure tending to the belief that in the event of additional land being granted the obligations thereby arising would be properly met.

(Initialed)

"P. B. M."

(e) HEATHERFIELD APPLICATION, SKYE.

Isabella Nicolson and four others, crofters of Heatherfield, in the Parish of Portree, Lord Macdonald, Proprietor, applied for enlargement of their holdings by having assigned to them a right to participate or share in the common grazing of the neighbouring township of Peneffler. The Application was dismissed as incompetent for the reasons set forth in the Note appended to the sub-joined Order:—

"DINGWALL, 3rd August 1893.

"The Commissioner having heard parties, Finds the Application incompetent, and under reference to the annexed Note dismisses the same.

(Signed)

"P. B. MACINTYRE."

Note.—The present Application bears to be a claim by the applicants to participate, to the extent of one cow's grass each, in the common pasture occupied by the township of Peneffler, Portree, and it is opposed by the tenants of Peneffler. According to the 12th Section of the Act, it is competent for the Commission to admit crofters, who have made Application for enlargement of their holdings to a landlord under that and the preceding section, to participate in common pasture occupied by other crofters. But an Application under these sections must be an Application to the Commission following upon an Application to the landlord which has been met with a refusal. In the present case there has been admittedly no such Application to the Landlord, and accordingly it is not open to the Commissioner to accede to the present claim: Further, while the present Application ostensibly bears to ask only for participation in crofter grazings, it is in reality a demand for the exclusive use and possession of as much grass as will summer graze one cow to each applicant. This is clear from the terms of the document addressed to the Commission of date March 4th 1887, wherein it is asked that the land in view be assigned 'by cutting off a small strip of the peat moss land which marches with the Parish Glebe, and which, though inferior pasture, would answer for summer grazing.' An Application of this kind is clearly incompetent, as the Commission has no power to cut off portions of grazing or other land already held by crofters under the Act, and assign such portions to other applicants desiring to obtain the same.

(Initialed)

"P. B. M."

(f) DUNGANNACHY APPLICATION. (g) GRAMISDALE APPLICATION. (h) BALIVANICH APPLICATION, BENBECULA.

These were Applications by certain crofters of the three several townships seeking enlargement of their holdings by taking land from the Farm of Nunton. The Proprietrix, Lady Gordon Cathcart, objected thereto, on the ground of material damage to the letting value of the remainder of the said farm, in the event of the land applied for being assigned. The Commissioners upheld this view, and dismissed the Applications. The following is the Order in each case:—

"EDINBURGH, 30th December 1893.

"The Commissioners having heard parties' Procurators, and made a careful examination of the whole lands and buildings which form the Farm of Nunton, Find that the Application is objected to

on the ground that the granting of the same would operate material damage to the letting value of the remainder of the farm: Find that this objection is well founded in point of fact and law Therefore Sustain the same: Refuse the Application, and Find no expenses due to or by either party.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(3) COUNTY OF ROSS AND CROMARTY.

ANNAT APPLICATION, BENDAMPH ESTATE.

William Mackenzie and nine others applied for enlargement of their holdings at Annat, on the Estate of Bendamph, the property of the Earl of Lovelace, by taking a portion of the said estate described in the Application as "Annat Park." Objection was taken under Section 13 (3) (d) of the Act, on the ground that the assignment of the said land would impair the amenity of the said estate. The Commissioner, convinced of the force of this argument, dismissed the Application. The following is his Order:—

"EDINBURGH, 15th December 1893.

The Commissioner having heard parties, considered the evidence adduced, and made careful inspection of the subjects in question, including in particular the land applied for, Finds that this Application is objected to, *inter alia*, on the ground that the said land is improved pasture in the immediate vicinity of the residence known as Bendamph Lodge, and could not be assigned in enlargement of the applicants' holdings without impairing the amenity of the said residence, contrary to the provisions of Section 13 (3) (d) of the Act: Finds that the said land is described in the Application as Annat Park, and extends to an area of 18 acres or thereby: Finds that the said portion of ground is the only arable land or land that could be made arable in the vicinity of the said residence; and that the granting of the Application would detract very seriously from the value of the said residence to the respondent: Finds that the same could not be assigned without substantially impairing the amenity of the said residence: Therefore Sustains the said objection. Dismisses the Application, and Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

[C]—MISCELLANEOUS.

COUNTY OF INVERNESS.

ISLAND FLODDAY APPLICATION, BENBECULA.

John Currie and others, crofters of the township of Island Flodday, Benbecula, the property of Lady Gordon-Cathcart, applied for enlargement of their holdings by taking from the Farm of Nunton, Benbecula, the part known as Rudha-Dubh, and extending to 96 acres or thereby. The Commissioners, after hearing evidence and inspecting the said subjects, intimated, as will be seen from the subjoined Order, that they consider the Application reasonable, and are prepared to grant the same. But before issuing an Order assigning the land applied for, and giving entry thereto, they have deemed it advisable to call upon the applicants to lodge a Minute stating whether they will undertake to repair a certain existing turf dyke, to cut a ditch, and to erect, along the margin of the latter, a turf dyke, three feet high,—of the distances shown by markings on a Plan relative to the said Application and Order,—and which the Commissioners are of opinion ought first to be made or arranged for.

"EDINBURGH, 30th December 1893.

"The Commissioners having heard parties, and considered the evidence adduced, Find that the applicants ask for enlargement of their holdings by taking land from the Farm of Nunton, presently in the occupation and possession of the proprietrix, and under the care of the manager: Find that the said farm extends to 208 acres of arable, 82 acres of old arable, 888 acres of pasture, and 2000 acres or thereby of hill ground: Find that the annual letting value of the farm is not less than £300 sterling, as appearing in the Valuation Roll: Repel the whole objections stated for the respondent, and Find the Application competent: Find that the land applied for, called Rudha-Dubh, extends to 96 imperial acres or thereby, and consists of heath mossing, a few acres in cultivation, and some green patches along the shore, all as coloured pink on the Plan or Tracing marked, and signed as relative hereto: Find that these portions of the said farm lie adjacent at low-water to the Isle of Flodday, presently occupied and possessed by the applicants in holdings under the Act, and that the claim made by the applicants for enlargement of holdings, by taking the said portion of land called Rhudubh, is reasonable: Find that the assignment of this part of the said farm would not cause material damage to the letting value of the remainder thereof: Find that the annual letting value of the said portion does not exceed £2, 10s. sterling, and that the assignment thereof would not have the effect of raising the annual value of the applicants' holdings respectively to a higher amount than

£15 sterling each: Find that the applicants are able properly to cultivate the same, in so far as it consists of arable land, and properly to stock the same, in so far as it consists of pasture land: But Find that, before any assignment can be made of the said portion of land, it is necessary that the existing turf dyke along the line marked A, B on the said Plan or Tracing be repaired, and also that the ditch be cut with a turf dyke on the margin thereof, three feet high, along the line marked B, C, D on the said Plan or Tracing: Therefore, before further answer, Ordain the applicants, if so advised, to lodge a Minute within three calendar months from this date, whereby they undertake to repair, or have repaired, the said existing turf dyke along the line marked A, B as aforesaid; and, also, undertake to cut, or have cut, a ditch with a turf dyke, three feet high, on the margin thereof, and along the line marked B, C, D on the said Plan or Tracing, and at sight and to the satisfaction of one of the Commissioners, or of a skilled person to be nominated by them; and whereby, further, they undertake to bear the one-half cost or labour of maintaining and upholding the said turf dyke and ditch in the future as a good and sufficient dyke and ditch: Ordain the Sheriff-Clerk to certify, on the termination of the foresaid period, whether the said Minute has been duly lodged.

(Signed)

“DAVID BRAND.

“W. HOSACK.

“P. B. MACINTYRE.”

APP. I—RETURN SHOWING THE PROCEEDINGS UNDER THE CROFTERS HOLDINGS (SCOTLAND) ACT, 1887, 50 & 51 VICT. CAP. 24,
FOR THE YEAR ENDING 31ST DECEMBER 1893.

(1)—COUNTY OF ARGYLL—[A] DISTRICT OF INVERARAY.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.			Amount sued for.	Amounts ordered to be paid.				Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
						£	s.	d.		First Instalment.		Second Instalment.					
										Date.	Amount.	Date.	Amount.				
1	1892 May 2	Inveraray (Duke of Argyll, Proprietor)	Angus Maclean	Kilbride Park	Inveraray	£	8	0	0	£	15	16	0	£	s.	d.	11th September 1893. Dis- missing Application in re- spect of Final Order in Fair Rent Application.

[B] DISTRICT OF CAMPBELTOWN.

															There was no Application from this district, under the Act of 1887, during the year 1893.
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[C] DISTRICT OF OBAN.

2	1889. Feb. 18	Lochnell . (Trustee of A. A. L. Campbell, Proprietor)	Duncan Campbell	Brolas	Ardchattan and Muckatrn	16 0 0	16 0 0	1889 June 10	8 0 0	...	...	8 0 0	8 0 0	23rd August 1893. Dis- missing Application in re- spect of Final Order in Fair Rent Application.
3	" 25		Archibald Mackillop	Airds		12 12 0	23 1 0		11 0 0			11 0 0	12 1 0	23rd August 1893. Do.

APP. I (2)—COUNTY OF INVERNESS—[A] DISTRICT OF INVERNESS.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts ordered to be paid.			Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.	Second Instalment.					
								Date.	Amount.	Date.	Amount.			
						£ s. d.	£ s. d.		£ s. d.		£ s. d.	£ s. d.		
						£ s. d.	£ s. d.							There was no Application from this district, under the Act of 1887, during the year 1893.

[B] DISTRICT OF FORT-WILLIAM.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts ordered to be paid.			Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.	Second Instalment.					
								Date.	Amount.	Date.	Amount.			
						£ s. d.	£ s. d.		£ s. d.		£ s. d.	£ s. d.		
						£ s. d.	£ s. d.							

[C] DISTRICT OF SKYE.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts ordered to be paid.			Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.	Second Instalment.					
								Date.	Amount.	Date.	Amount.			
						£ s. d.	£ s. d.		£ s. d.		£ s. d.	£ s. d.		
						£ s. d.	£ s. d.							

1892	1 Jan. 28	Lochiel (Donald Cameron of Lochiel, Proprietor)	John Cameron	Cuilchenna	Kilmallie	5 0 0	26 4 4	1892 Dec. 3	5 - -	...	...	21 4 4	8th March 1893. Superceding further consideration <i>in hoc statu</i> .	
1892	Oct. 6	Macleod (Macleod of Macleod, Proprietor)	William Macleod	Kinkloch	Duirnish	5 0 0	25 19 7	...	...	...	...	...	3rd August 1893. Dismissing Application in respect of Final Order in Fair Rent Application.	
	7	"	John Macdonald	Roshkill	"	1 19 0	2 18 6	1892 Nov. 24	2 0 0	...	...	...	11th July 1893. Do.	
	10	"	William Campbell	"	"	2 10 0	3 15 0	"	2 10 0	...	...	...	Do. do.	
	"	"	Malcolm Mackay	"	"	2 1 6	3 2 3	"	2 0 0	...	...	...	Do. do.	

APP. I (2)—COUNTY OF INVERNESS—(continued)—[D] DISTRICT OF LONG ISLAND.

No.	Date of Receipt by Commission.	Estate.	Croft.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts ordered to be paid.				Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.		Second Instalment.					
								Date.	Amount.	Date.	Amount.				
	1892					£ s. d.	£ s. d.		£ s. d.		£ s. d.	£ s. d.			There was no Application from this district, under the Act of 1887, during the year 1893.

APP. I (3)—COUNTY OF ROSS AND CROMARTY—[A] DISTRICT OF DINGWALL.

															There was no Application from this district, under the Act of 1887, during the year 1893.
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[E] DISTRICT OF THE LEWS.

															There was no Application from this district, under the Act of 1887, during the year 1893.
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[C] DISTRICT OF TAIN.

															There was no Application from this district, under the Act of 1887, during the year 1893.
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APP. I (3)—COUNTY OF ROSS AND CROMARTY—(continued)—[D] DISTRICT OF CROMARTY.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amounts Ordered to be Paid.				Total Amount remaining ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
							First Instalment.	Second Instalment.	Date.	Amount.				
						£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.			

APP. I (4)—COUNTY OF SUTHERLAND.

1	1893 Nov. 21	Airdens (Duncan Cameron, Trustee for the late J. R. Gilchrist, Pro- prietor)	Widow George Ross	Airdens	Orreich	10 0 0	14 0 0	...	...	...	...	...	27th November 1893. Order appointing the Ap- plicant to lodge a State- ment showing cause why the Application should not be dismissed, having re- gard to Section 2 (2) of the Crofters Holdings (Scotland) Act, 1887.	
2	"	"	Thomas Mackenzie	"	"	10 0 0	7 0 0	...	...	...	...	...	Do. do.	
3	"	"	Robert Calder	"	"	11 0 0	9 10 0	...	...	...	...	...	Do. do.	
4	"	"	Donald Leslie	"	"	7 0 0	8 10 0	...	...	...	...	...	Do. do.	
5	"	"	John Chisholm	"	"	14 0 0	15 0 0	...	...	...	...	...	Do. do.	
6	"	"	Donald Calder	"	"	10 0 0	6 0 0	...	...	...	...	...	Do. do.	
7	"	"	Donald Logan	"	"	9 0 0	9 0 0	...	...	...	...	...	Do. do.	
8	"	"	Widow Alexander Calder	"	"	10 0 0	13 0 0	...	...	...	...	...	Do. do.	
9	"	"	Anne Leslie	"	"	3 0 0	6 10 0	...	...	...	...	...	Do. do.	

There was no Application from this district, under the Act of 1887, during the year 1893.

APP. I (7)—COUNTY OF SHETLAND.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts Ordered to be Paid.				Total Amount remaining ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.		Second Instalment.					
								Date.	Amount.	Date.	Amount.				
1	1893 Feb. 13	Brough (Sir Arthur Nicolson, Proprietor)	William Laurensen	Clickimin	Lerwick	15 2 5	18 4 10	...	...	...	...	...	...	9th November 1893. Dismissing Application in respect Applicant is a Leaseholder.	
2	" 27	Gardie (Miss Cameron Monat, Proprietrix)	William Tulloch	Leraness	Bressay	...	...	...	...	...	...	...	...	1st November 1893. Ordering Applicant to make payment of £16 to account of Rent or Arrears on or before 30th November 1893.	
3	May 19	Burra (Mrs Spence and Trustees of Miss Scott, Proprietrices)	Robert Laurensen	Burra Isle	Lerwick	5 5 0	4 5 0	...	...	...	...	...	4 5 0	3rd August 1893. Prohibiting <i>in hoc statu</i> all proceedings for Sale of Applicant's effects, &c.	
4	" "	" "	Alexander Pottinger	"	"	4 11 0	4 11 0	...	...	..	...	...	4 11 0	Do. do.	
5	" "	" "	Laurence Laurensen	"	"	1 13 0	4 16 0	...	...	...	...	...	4 16 0	Do. do.	
6	" "	" "	Charles Pottinger	"	"	4 0 0	5 0 0	...	...	...	...	...	5 0 0	Do. do.	
7	" "	" "	Gilbert Goodlad	"	"	5 5 0	3 5 0	...	...	...	...	...	3 5 0	Do. do.	
8	" "	" "	Barbara Smith	"	"	1 11 6	4 2 8	...	...	...	...	...	4 2 8	Do. do.	
9	Aug. 2	Gardie (Miss Cameron Monat, Proprietrix)	A. Strachan	Ham.	Bressay	10 0 0	20 9 4½	...	...	...	...	...	...	1st August 1893. Dismissing Application.	See Appendix G (7), page 97.

APP. K—RETURN RELATIVE TO APPLICATIONS BY CROFTERS TO SIST PROCEEDINGS FOR REMOVAL, UNDER SECTION 6 (4) OF THE CROFTERS HOLDINGS (SCOTLAND) ACT, 1886, 49 & 50 VICT. CAP. 29, FOR THE YEAR ENDING 31st DECEMBER 1893.

(1)—COUNTY OF ARGYLL—[A] DISTRICT OF INVERARAY.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts Ordered to be Paid.						Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.		Second Instalment.							
								Date.	Amount.	Date.	Amount.						
1	1892 May 2	Inveraray. (Duke of Argyll, Proprietor)	Angus Maclean	Kilbride	Inveraray	£ s. d. 8 0 0	£ s. d. 15 16 0	...	£ s. d. ...	...	£ s. d. ...	...	£ s. d. ...	...	11th September 1893. Dismissing Application in respect of Final Order in Fair Rent Application.		

[B] DISTRICT OF CAMPBELTOWN.

															There was no Application under this sub-section from this district during the year 1893.
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[C] DISTRICT OF OBAN.

2	1893 Nov. 25	Ross of Mull (Duke of Argyll, Proprietor)	William Vass	Creich	Kilfinichen and Kilvickeen	6 10 7	21 5 8	...	...	...	...	...	...	8th December 1893. Prohibiting <i>in hoc statu</i> all proceedings for removal.	
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APP. K (1)—COUNTY OF ARGYLL—(continued)—[D] DISTRICT OF FORTWILLIAM.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts Ordered to be Paid.				Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.		Second Instalment.					
								Date.	Amount.	Date.	Amount.				
						£ s. d.	£ s. d.				£ s. d.	£ s. d.		There was no Application under this sub-section from this district during the year 1893.	

APP. K (2)—COUNTY OF INVERNESS—[A] DISTRICT OF INVERNESS.

														There was no Application under this sub-section from this district during the year 1893.
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[B] DISTRICT OF FORTWILLIAM.

														There was no Application under this sub-section from this district during the year 1893.
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[C] DISTRICT OF SKYE.

														There was no Application under this sub-section from this district during the year 1893.
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

APP. K (2)—COUNTY OF INVERNESS—(continued)—[D] DISTRICT OF LONG ISLAND.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts Ordered to be Paid.				Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalments.		Second Instalment.					
								Date.	Amount.	Date.	Amount.				
						£ s. d.	£ s. d.		£ s. d.		£ s. d.	£ s. d.			There was no Application under this sub-section from this district during the year 1898.

APP. K (3)—COUNTY OF ROSS AND CROMARTY—[A] DISTRICT OF DINGWALL.

1	1893 May 5	Gairloch . (Sir K. S. Mackenzie, Bart., Proprietor)	Mrs Mary Urquhart	Luibmòre .	Gairloch .									8th June 1893. Dismissing Application as incompetent.	
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[B] DISTRICT OF THE LEWS.

															There was no Application under this sub-section from this district during the year 1893.
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[C] DISTRICT OF TAIN.

2	1891 May 23	Mayfield . (Hugh Munro Fraser, Proprietor)	Alexander Ross	Blarleath	Tain									8th June 1893. Dismissing Application in respect of Order in Fair Rent Application.	
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APP. K (3)—COUNTY OF ROSS AND CROMARTY—(continued)—[D] DISTRICT OF CROMARTY.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.	Amount sued for.	Amounts Ordered to be Paid.				Total Amount remaining ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
								First Instalment.		Second Instalment.					
								Date.	Amount.	Date.	Amount.				
								£	s.	d.	£				
						£ s. d.	£ s. d.				£ s. d.	£ s. d.		There was no Application under this sub-section from this district during the year 1893.	

APP. K (4)—COUNTY OF SUTHERLAND.

															There was no Application under this sub-section from this County during the year 1893.
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

APP. K (5)—COUNTY OF CAITHNESS.

															There was no Application under this sub-section from this County during the year 1893.
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APP. K (6)—COUNTY OF ORKNEY.

															There was no Application under this sub-section from this County during the year 1893.
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

APP. K (?)—COUNTY OF SHETLAND.

No.	Date of Receipt by Commission.	Estate.	Crofter.	Township or District.	Crofting Parish.	Present Rent.		Amount sued for.	Amounts Ordered to be Paid.				Total amount ordered to be paid.	Balance remaining to be dealt with.	Date and purport of last Order of Commission.	Observations.
						£	s.		First Instalment.		Second Instalment.					
									Date.	Amount.	Date.	Amount.				
1	1890 Feb. 13	Brough (Sir Arthur T. B. R. Nicolson, Bart., Proprietor)	William Laurensen .	Clickimin .	Lerwick .	£	s.	d.	£	s.	d.	£	s.	d.	9th November 1893. Dismissing Application with 10s. 6d. of expenses to respondent.	
2	" 23	West Yell (H. A. Ballantyne, Proprietor)	Barbara Sharp .	Ulst .	Mid and South Yell	£	s.	d.	£	s.	d.	£	s.	d.	26th October 1893. Ordaining Applicant to pay £6, in name of Rent or Arrears of Rent, on or before 30th November 1893.	
3	" 27	Gardie (Miss Cameron Monat, Proprietrix)	William Tulloch .	Leranes .	Bressay .	£	s.	d.	£	s.	d.	£	s.	d.	22nd March 1893. Prohibiting <i>in hoc statu</i> all proceedings for removal.	

APPENDIX L—RESUMPTION OF HOLDINGS.

[A] APPLICATIONS GRANTED.

(1) COUNTY OF ORKNEY.—CASE OF JAMES SINCLAIR, BRECHANS, GRIMNESS, SOUTH RONALDSHAY.

This was an Application for Resumption by the Proprietor, Archibald Cromarty, of the holding known as the Farm of Brechans, in the township of Grimness, South Ronaldshay, against James Sinclair, the occupant thereof. The applicant, who had succeeded to the holding on the death of his father, removed therefrom, along with his mother, in or about 1879, when the respondent, James Sinclair, became tenant. At that time the applicant was a lad of about 14 years, and unfitted to work the holding. At the date of Inquiry he was prosecuting the trade of fisherman at Burray, and sought Resumption of the said holding for the purpose of using it as a residence or home for himself. The Commissioner, while granting the Application, found the respondent entitled to compensation, fixing the same at the sum of £17, 8s., with power to the said respondent to reap the crop for the current year, all as set forth in the following Order, viz :—

“ DINGWALL, 3rd August 1893.

“ The Commissioner having heard parties, and considered the evidence adduced, Finds that the respondent began to occupy or possess the holding in question at or about the term of Martinmas 1879 : Finds that the applicant was then only about 14 years of age, and unable to work the holding, and that his mother and he were obliged to leave it : Finds that at present the applicant is a fisherman, residing with his step-father at West Shore, Burray ; and that, though he learned the trade of a joiner, he does not carry on that trade on the said island : Finds that, on 31st October 1887, the applicant intimated to the respondent that he desired to occupy the croft, which intimation was formerly repeated in writing, by letter from his agent, of date 15th March 1893 : Finds that the holding in question is the only land belonging to the applicant, and finds it proved on the evidence, that it is the intention of the applicant to reside on and occupy the same : Therefore Finds, in point of law, and on the principle of the decision in *Slater v. Esslemont*, Report for 1888, p. 177, that the applicant is entitled to resume the holding in question, known as the Farm or Croft of Brechans, Grimness, South Ronaldshay : Accordingly requires the respondent, presently occupying and possessing the said croft, to surrender the same to the applicant : Further, having inspected the holding, including the land, dwelling-house and other buildings, Finds that the respondent is entitled to compensation under and in terms of Section 2 of the Act : Fixes such compensation at the sum of £17, 8s. sterling, and decerns for that sum against the applicant, to be paid before entry : Fixes the term of entry at Martinmas 1893 : Allows the respondent to reap this year's crop, and Finds that the applicant is entitled to purchase and take over same on such terms as they may agree upon mutually : Reserves to parties to apply further, if so advised : Finds no expenses due to or by either party.

(Signed)

“ P. B. MACINTYRE.”

(2) COUNTY OF ROSS AND CROMARTY—CASE OF WIDOW HECTORINA TAYLOR, BADACHRO, GAIRLOCH.

Sir Kenneth S. Mackenzie of Gairloch, Bart., proprietor of the holding of Aird, occupied by Mrs Hectorina Taylor, Badachro, Gairloch, sought to resume a portion thereof,—one acre pasture or thereby,—for the purpose of feuing the same for use as a fishcuring establishment, and tendered as compensation therefor a yearly reduction of 13s. from the Fair Rent of the Respondent's said holding. The Application was sustained, and the proposed compensation approved and ordained to be made, as will be seen from the following Order :—

“ EDINBURGH, 8th February 1893.

“ The Commissioners having resumed consideration of this Application, together with the objections for the respondent, Mrs Hectorina Taylor, Find, in point of law, that the applicant is entitled to resume that portion of the holding of Aird, Badachro, Gairloch, which is situated on the island known as ‘ Dry Island,’ and extending to one acre of pasture or thereby, with the view of feuing the same to a fishcurer for a residence and fishcuring establishment : Therefore Repel the said objections stated for the respondent : Ordain the respondent, who presently occupies and possesses the said portion of land, to surrender the same to the applicant, and that at or before the term of Whitsunday 1893 : Find that the respondent is entitled to compensation for the land resumed : Find that the applicant offers a reduction of rent to the respondent amounting to 13s. yearly : Find that this amount of compensation is adequate : Therefore fix the same at the said yearly sum of 13s. by way of reduction of rent of the respondent's holding : Find no expenses due to or by either party : Reserve to parties to apply further, if so advised, as to the carrying out of this Order.

(Signed)

“ DAVID BRAND.
“ W. HOSACK.”

[B] APPLICATIONS REFUSED.

(1) COUNTY OF ARGYLL.

CASE OF JOHN MACINTYRE, KILCHRENAN, LOCHAWESIDE.

In this Application the Landlord, Mr William Campbell Muir, along with his Trustee, Mr J. A. Molleson, C.A., Edinburgh, who was afterwards sisted as a party to the Application, sought to resume possession of the holding at Kilchrenan, on the Estate of Innistrynich, occupied by John Macintyre. Objection was taken to the Application among other reasons that the said applicants had no power to feu, in respect the said William Campbell Muir was a liferenter only of the said estate. The Commissioner held that no reasonable ground for resumption had been stated in terms of Section 2 of the Act, and dismissed the Application.

"DINGWALL, 3rd August 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Refuses the Application under reference to the annexed Note.

(Signed) "P. B. MACINTYRE."

"*Note.*—The present Application has been brought under Section 2 of the Act, which is the only section dealing with the case of resumption of a holding or part of a holding by a landlord, but the applicants have failed to satisfy the Commissioner that they desire to resume part of the holding for some reasonable purpose, having relation to the good of the holding, or of the estate, including the various purposes set forth in the said section, accordingly the Application stands refused.

(Initialed) "P. B. M."

(2) COUNTY OF CAITHNESS.

CASE OF JAMES MANSON, FRESWICK.

The proprietor, Mr W. S. Thomson-Sinclair of Freswick, applied for resumption of a certain portion or portions of the holding occupied by James Manson, crofter on his said estate, for the purpose of making a drain or ditch, and to heap up the soil dug from the said ditch on the land alongside same. Evidence was led in support of the Application, and parties heard, and the Commissioner, after consideration of the whole circumstances, and upon inspection made by him of the subjects, dismissed the Application for reasons fully set forth in the Note appended to the subjoined Order:—

"EDINBURGH, 17th March 1893.

"The Commissioner having heard parties, considered the evidence adduced, and made due inspection of the holding, Finds that the present Application is made for resumption of such portions of the holdings of certain crofters, including that of the respondent, as are indicated on the plan or tracing, produced and marked A/1199, with a view to the construction of a drain as delineated by the black line running from C to D on the said plan or tracing: Finds that the Application is opposed by the respondent, on the ground that serious injury would result to his croft from the construction of the said proposed drain through the same: Finds that this objection is well founded in point of fact: Finds, further, that such a water-course as is contemplated might be more advantageously constructed in another direction, and without passing through the respondent's holding: Therefore refuses the present Application: Finds no expenses due to or by either party.

(Signed) "P. B. MACINTYRE."

"*Note.*—The object aimed at by the applicant is to obtain a convenient discharge for water coming from the direction of the croft occupied by David Henderson, but the Commissioner is of opinion that, from the nature of the sub-soil, which is largely intermixed with sand, the construction of such a drain would inevitably result in the margins or banks from time to time falling in, thereby impeding the flow of water, and otherwise injuriously interfering with the crofts affected. In the judgment of the Commissioner, a convenient line of drainage would be from the point C to the point E on the said Plan or Tracing, thence to the point F, and thence towards the right or left as might be found most suitable. While the most expedient line, other than the one proposed, is mainly a question for the applicant himself, the Commissioner is clear that the line desired in the present Application is not one which entitles the applicant to resume as craved.

(Initialed) "P. B. M."

(3) COUNTY OF SHETLAND.

CASE OF GEORGE JAMIESON AND ANOTHER, GUDON, EAST YELL.

In this case the landlord, Thomas Magnus Urquhart, Shipmaster, Leith, lodged an Application with the Commission for power to resume the holding of Gudon, East Yell, for the purpose of forming it into a retiring place and residential settlement for himself and family in his declining years. The respondent objected, on the ground that it was unnecessary to resume his holding for the purpose stated, in respect the applicant had land adjoining the said holding, besides other property elsewhere, which would suit equally well. The Commissioners, in deciding the matter, held that the applicant had not produced any substantial reason in support of his Application, and accordingly dismissed same. The following are their Order and Note:—

“EDINBURGH, 24th March 1893.

“The Commissioners having resumed consideration of this Application, and considered the evidence adduced, both parole and documentary, Find that the present Application does not come within the provisions and scope of Section 2 of the Crofters Holdings Act, and is therefore incompetent: Accordingly dismiss the same: Find the applicant liable in expenses to the respondents: Modify these to the sum of £1, 1s., and decerns.

(Signed)

“DAVID BRAND.

“W. HOSACK.

“P. B. MACINTYRE.”

“*Note.*—It was disclosed, in the course of the inquiry, that the applicant is the proprietor of certain house property in the town of Leith, and has for a length of time made that place his home. In or about 1885 he purchased the holding in question, and also the adjoining holding, which latter was occupied for some time by his family in the course of the year 1892. His allegation is that he is about to retire from his avocation as captain of a vessel, and to take up residence on the holding he desires to resume. It was pleaded that the present Application came within the principle of the ruling in *Slater v. Esslemont* (Report for 1888, p. 177); but, in the opinion of the Commissioner, the circumstances of that case are entirely different, and the ruling there accordingly does not apply to the present Application. So far as appears there is nothing to prevent the applicant from erecting a house on the adjoining croft occupied by his family in 1892. It is further to be kept in view that when the applicant acquired the holding desired to be resumed, he found the present respondents located thereon, who, in the following year, came within the scope of the Act. It would be unreasonable to allow the applicant to resume, and compel the respondents to remove, at the instance of a landlord having house property and a home in Leith, and ground other than the holding in question, adjoining the same, and suitable for building purposes. In the whole circumstances the Commissioners are satisfied that the applicant is not entitled to succeed in his present claim.

(Initialed)

“D. B.

“W. H.

“P. B. M.”

APP. M.—TABLE SHOWING ACCORDING TO COUNTIES, THE TOTAL NUMBER OF APPLICATIONS TO FIX FAIR RENTS, THE NUMBER DISPOSED OF, AND THE NUMBER REMAINING TO BE DEALT WITH, AS AT 31ST DECEMBER 1893.

County.	Total Number of Applications to be dealt with on 31st December 1892, carried forward from last Report.	Received between 31st December 1892 and 31st December 1893.		Total Number of Applications to fix Fair Rents.	Number of Fair Rents fixed between 31st Dec. 1892 and 31st Dec. 1893.	Rents fixed for additional Pasture only.	Applications Withdrawn.	Applications Dismissed.	Applications conjoined ; or in Duplicate.	Total Number disposed of between 31st Dec. 1892 and 31st Dec. 1893.	Total Number to be dealt with as at 31st Dec. 1893.
		Applications by Crofters.	Holdings in Applications by Landlords.								
Argyll	460	47	...	507	287	...	53	85	4	429	78
Inverness	188	28	8	219	91	...	19	13	...	123	96
Ross and Cromarty	27	4	3	34	20	...	...	3	1	24	10
Sutherland	467	24	231	722	386	7	8	4	54	459	263
Caithness	7	7	...	14	3	...	2	1	...	6	8
Orkney	179	25	56	260	224	..	15	5	...	244	16
Shetland	2	8	...	10	1	...	...	1	...	2	8
Total	1325	143	298	1766	1012	7	97	112	59	1287	479

APP. N—TABLE SHOWING, ACCORDING TO COUNTIES, THE TOTAL NUMBER OF MISCELLANEOUS APPLICATIONS, THE NUMBER DISPOSED OF, AND THE NUMBER REMAINING TO BE DEALT WITH, AS AT 31ST DECEMBER 1893.

County.	Number to be dealt with at 31st Dec. 1892.	Received between 31st December 1892 and 31st December 1893.						Total.	Resumption of Holdings granted.	Compensation for Improvements fixed.	Rules and Regulations made.	Marches fixed.	Applications Withdrawn.	Applications missed.	Total Number disposed of between 31st Dec. 1892 and 31st Dec. 1893.	Number to be dealt with as at 31st December 1893.
		Section 2 Applications by Landlords for Resumption of Holdings.	Sections 8 and 9 Applications for Compensation for Improvements.	Section 12 Applications to regulate use of Peat Banks.	Section 21 Applications to fix Marches.	Applications by Landlords for Division of Common.	Applications for the Regulation of Common Grazings.									
Argyll	1	2	1	...	1	...	1	6	...	1	1	...	...	1	3	3
Inverness	3	1	2	...	...	...	7	13	...	...	8	...	...	2	10	3
Ross and Cromarty	4	...	...	...	...	...	8	12	1	...	10	...	...	...	11	1
Sutherland	4	...	...	...	2	...	2	8	...	...	3	2	1	1	7	1
Caithness	4	1	2	1	...	...	...	8	...	2	...	...	1	2	5	3
Orkney	9	1	4	1	...	1	...	16	1	3	...	...	6	3	13	3
Shetland	4	...	...	...	...	...	7	11	...	...	5	...	1	...	6	5
Total	29	5	9	2	3	1	25	74	2	6	27	2	9	9	55	3

APP. O--TABLE SHOWING, ACCORDING TO COUNTIES, THE NUMBER OF APPLICATIONS TO SIST PROCEEDINGS FOR REMOVAL, IN RESPECT OF NON-PAYMENT OF RENT, AND HOW THE SAME HAVE BEEN DEALT WITH, UP TO 31ST DECEMBER 1893.

County.	Applications carried forward from previous Reports in which Orders have been issued between 31st December 1892 and 31st December 1893.	Applications received between 31st December 1892 and 31st December 1893.	Total Number of Applications for Orders to Sist Proceedings for Removal.	Number of Applications in which Sists have been granted.	Number of Applications in which temporary orders are pending.	Number of Applications dismissed.	Number of Applications dealt with between 31st December 1892 and 31st December 1893.
Argyll	1	1	2	...	1	1	2
Inverness	...	...	...	...	...	...	...
Ross and Cromarty	...	1	1	...	...	1	1
Sutherland	...	...	...	...	...	...	...
Caithness	...	...	...	...	...	...	...
Orkney	...	...	...	...	...	...	...
Shetland	...	3	3	...	2	1	3
Total	1	5	6	...	3	3	6

APP. P—TABLE SHOWING, ACCORDING TO COUNTIES, THE NUMBER OF APPLICATIONS TO PROHIBIT SALES OF CROFTERS' EFFECTS UPON THEIR HOLDINGS, BY VIRTUE OF DECREES FOR PAYMENT OF RENT OR ARREARS OF RENT, AND HOW THE SAME HAVE BEEN DEALT WITH, UP TO 31ST DECEMBER 1893.

County.	Number of Applications carried forward from previous Reports in which Orders have been issued between 31st December 1892 and 31st December 1893.	Number of Applications received between 31st December 1892 and 31st December 1893.	Total Number of Applications for Orders to sist Proceedings for Sale.	Sales prohibited.	Number of Applications in which Temporary Orders are pending.	Number of Applications Dismissed.	Total Number of Applications dealt with between 31st December 1892 and 31st December 1893.	Number of Applications in which no Orders have been issued.
Argyll	8	...	8	...	1	7	8	...
Inverness	5	...	5	1	...	4	5	...
Ross and Cromarty	...	...	...	...	...	...	...	...
Sutherland	...	9	9	...	9	...	9	...
Caithness	4	...	4	...	2	2	4	...
Orkney	...	2	2	...	...	2	2	...
Shetland	...	9	9	...	7	2	9	...
Total	17	20	37	1	19	17	37	...

APP. B.—TABLE SHOWING IN DETAIL THE NUMBER OF APPLICATIONS FOR ENLARGEMENT OF HOLDINGS NOT DISPOSED OF AS AT 31st DECEMBER 1893, THE NUMBER OF APPLICANTS, NAME OF THE FARM OR OTHER SUBJECT FROM WHICH LAND IS PROPOSED TO BE TAKEN, BY WHOM OCCUPIED, AND PRESENT RENT OR ANNUAL VALUE AS SET FORTH IN EACH APPLICATION.

County.	Date of Receipt by Commission.	Number of Applicants.	Township or District.	Parish.	Proprietor.	Farm or other Subject from which Land is proposed to be taken.			Remarks.
						Name.	By whom Occupied.	Agricultural and Pastoral Rent, or Annual Value.	
Argyll	1891 April 27	5	Kinlochell	Kilmallie	Donald Cameron	Drunnasaille	Proprietor	£ 70 0 0	
"	1892 April 9	5	Coll	Coll	John L. Stewart	Totum (pp.)	"	175 0 0	
Inverness	1891 March 25	20	Farley, &c.	Kilmorack	Lord Lovat	Farley Deer Forest	Tenant	500 0 0	
"	November 10	2	Griminish†	South Uist.	Lady Gordon-Cathcart	Nunton	Proprietrix	300 0 0	
"	December 5	6	Island Flodday*	"	"	"	"	300 0 0	
"	1891 18	25	Geary†	Duirinish	Captain Macdonald	Geary	Proprietor	400 0 0	
"	"	12	Halistra, &c.†	"	"	Upper Halistra	"	400 0 0	
"	"	6	Gillint†	"	"	Gillint	"	400 0 0	
"	"	7	Knockbreck†	"	"	Knockbreck	"	400 0 0	
"	1892 January 20	5	Resaurie, &c.	Kilmorack	Lord Lovat	Vacant Croft	"	"	
"	October 6	6	Solihote	Kilmuir	Trustees of late G. A. Baird	Duntulm	Tenant	866 0 0	
"	1893 January 21	13	Hungladder	"	"	"	"	860 0 0	
"	"	5	Stronaba	Kilmorivraig	Trustees of Bedford Hospital	Muconer	"	114 0 0	
"	April 6	13	Stenschohl	Kilmuir	Trustees of G. A. Baird	Stenschohl Island	Proprietor	"	
"	" 15	23	Flashadder and Kildonan	Duirinish	Donald Macdonald	Lynedale Farm	Proprietor	200 0 0	

* See App. H, page 127.

† Applications heard, and lands inspected, but Final Orders not yet issued.

APP. R.—TABLE SHOWING IN DETAIL THE NUMBER OF APPLICATIONS, &c.—continued.

County.	Date of Receipt by Commission.	Number of Applicants.	Township or District.	Parish.	Proprietor.	Farm or other Subject from which Land is proposed to be taken.			Remarks.
						Name.	By whom Occupied.	Agricultural and Pastoral Rent, or Annual Value.	
Inverness	1893 November 25	28	Balmacquien and Kenedram	Kilmuir	Trustees of G. A. Baird	Duntulm	Proprietors	£ 380 s. 0 d. 0	
"	"	6	Conista, &c.	"	"	"	"	380 0 0	
"	"	9	Boreray†	North Uist	Sir J. W. P. Campbell-Orde, Bart.	Newton	Tenant	500 0 0	
Ross and Cromarty	1889 September 12	11	Carloway	Lochs	Lady Matheson	Linchader	"	354 0 0	
"	1890 November 8	16	Strathcauniard	Lochbroom	Earl of Cromartie	Langwell	Proprietor	385 0 0	
"	1892 August 1	9	Kneep	Uig	Lady Matheson	Linchader	Proprietrix	...	
"	1888 June 26	5	Bualnatoirach and Rhinamaint	Lairg	Duke of Sutherland	Lairg Hotel Farm	Tenant	...	
Sutherland	"	6	Elphin*	Assynt	"	Glencanisp Deer Forest	"	...	
"	July 9	20	Elphin and Knockant†.	"	"	"	"	...	
"	December 13	9	Gartynmore, &c.†.	Kildonan	"	Elderable	"	232 0 0	
"	" 21	10	West Helmsdale†	"	"	"	"	232 0 0	
"	" 26	8	Lothbeg and Crakaig†	Loth	"	Crakaig	"	937 0 0	
"	February 15	20	Old Helmsdale, &c.†.	Kildonan	"	Navidale	"	...	
"	1890 August 27	6	Durine and Sangomore	Durness	"	Kooldale	"	1228 0 0	
"	November 17	5	Laid	"	"	Erboll	"	1300 0 0	
"	1892 January 13	12	Elphin	Assynt	"	Ledmore	"	...	
"	October 28	5	Sangomore, &c.	Durness	"	Balnakill	Tenant	800 0 0	
"	1893 November 13	5	West Helmsdale	Kildonan	"	Elderable	"	170 0 0	
Caithness	April 26	16	Kirkstyle, &c.	Dunnet	W. S. T. Sinclair	Links of Dunnet	"	85 0 0	
Shedland	1889 July 4	30	Vadgarth, &c.	Dunrosness	John Bruce	Moussa, &c.	Proprietor	115 0 0	

* See Report for 1891, App. H, page 190.

† See Report for 1891, App. H, pages 190-91.

‡ Applications heard, and lands inspected, but Final Orders not yet issued.

APPENDIX S—MISCELLANEOUS.

(1) COUNTY OF ORKNEY.

A] COMPENSATION TO A CROFTER ON RENUNCIATION.—(a) CASE OF MAGNUS HUTCHISON, CROSSGATES, SHAPINSHAY.

Magnus Hutchison, crofter, Crossgates, on the estate of Shapinshay, the property of Mrs Eleanor Balfour, in liferent, and Lieut.-Col. James William Balfour in fee, renounced his tenancy of the said holding of Crossgates, as at and from the term of Martinmas 1893, and in an Application for compensation lodged by him claimed the sum of £393, 15s., restricted to £250, for permanent or unexhausted improvements alleged to have been executed on the said holding. After full inquiry and inspection, the Commissioner issued the following Order, fixing the amount of compensation, to be paid to the applicant on quitting the holding, at £126, 1s., viz. :—

“KIRKWALL, 11th July 1893.

“The Commissioner having considered this Application, together with the evidence adduced, and inspected the subjects, Finds that the applicant renounced the tenancy of his holding at Crossgates, Shapinshay, as at the term of Martinmas 1893: Finds that he is entitled to compensation under Section 8 of the Act on such renunciation of tenancy, and, on leaving, the whole buildings and other subjects renounced in as good order and condition as they are at present: Reserves to the landlord to apply, by Minute herein, with reference to this matter, if so advised: Assesses the total amount of compensation due, at the sum of £126, 1s.: Ordains the respondent, Lieut.-Col. James William Balfour, proprietor in fee of the said holding, to make payment of the said sum of £126, 1s. to the applicant on his removal therefrom at the said term of Martinmas 1893, and decerns: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

(b) CASE OF JOHN INKSTER, VIDDESQUOY, SHAPINSHAY.

John Inkster, a crofter at Viddesquoy, on the same Estate, applied to the Commission for compensation in respect of improvements executed by him on his holding. The amount claimed was £55, 4s. restricted to £40. After inquiry and inspection, the following Order was issued, assessing the compensation at £14, 15s., payable on removal.

“KIRKWALL, 11th July 1893.

“The Commissioner having considered this Application, together with the evidence adduced, and made inspection of the subjects, Finds that the applicant renounced the tenancy of his holding at Viddesquoy, Shapinshay, as at Martinmas 1893: Finds that he is entitled to compensation under Section 8 of the Act on such renunciation of tenancy; and, on leaving, the whole buildings and other subjects renounced in as good order and condition as they are at present: Reserves to the landlord to apply, by Minute herein, with reference to this matter, if so advised: Assesses the whole amount of compensation due, at the sum of £14, 15s.: Ordains the respondent, Lieut.-Col. James William Balfour, proprietor in fee of the applicant's holding, to make payment of the said sum of £14, 15s. to the applicant on his removal therefrom at the said term of Martinmas 1893, and decerns: Finds no expenses due to or by either party.

(Signed)

“W. HOSACK.”

(c) CASE OF JAMES SINCLAIR, BLOWMUIR, GRÆMESHALL.

James Sinclair, a crofter at Blowmuir, on the Estate of Græmeshall, the property of A. Sutherland Græme, applied for compensation for improvements executed on his holding. The amount claimed was £226, 16s. 7d. After inquiry and inspection, the Commissioner pronounced the following Order, assessing the compensation, to be paid on removal, at £123 :—

“KIRKWALL, 11th July 1893.

“The Commissioner having considered this Application, together with the evidence adduced, and inspected the subjects, Finds that the applicant renounced his holding at Blowmuir Holm, as at the term of Martinmas 1893: Finds that he is entitled to compensation under Section 8 of the Act on such renunciation of tenancy; and on leaving the whole buildings and other subjects renounced in as good order and condition as they are at present: Reserves to the landlord to apply, by Minute herein,

with reference to this matter, if so advised: Assesses the total amount due at the sum of £123 sterling: Ordains the respondent to make payment of the said sum of £123 to the applicant on his removal from the holding at the said term of Martinmas 1893, and decerns: Finds no expenses due to or by either party.

(Signed)

"W. HOSACK."

(2) COUNTY OF ARGYLL.

[A] MARCH DISPUTE—CASE OF JOHN FERGUSON, TORMISDALE, ISLAY.

In this case a dispute arose between John Ferguson, crofter, Tormisdale, Islay, and the tenants of the Farm of Tormisdale, as to the line of March between his holding and the said farm. The Commissioner, on inspection, fixed the line of March in presence of parties, and thereafter issued the following Order:—

"EDINBURGH, 15th December 1893.

"The Commissioner having considered the question as to the line of March between the applicant's holding and the farm and lands of Tormisdale, occupied and possessed by Dugald and Angus Ferguson, farmers there, and having made inspection of the said holding, Finds the area thereof to extend to the boundary line laid down by the Commissioner at the said inspection: Finds and Declares such boundary line to be the line of March between the said holding and the said farm and lands of Tormisdale, and appoints the same to be observed and adhered to by parties: Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

[B] COMPENSATION TO A COTTAR ON REMOVAL—CASE OF NEIL MACDOUGALL, COUR, CARRADALE.

Neil Macdougall, a cottar, occupied and possessed a house and subjects erected by him at Cour, Carradale, in Kintyre, on the property of Charles Brodie Macalister, and was ejected therefrom at the instance of the landlord on 14th June 1889, under a Decree of the Sheriff Court, dated the 12th of that month, and on or about the 15th of the same month the said erections were demolished and removed. Macdougall, on 18th September following, raised an action, in the Court of Session, against Mr Macalister, in which he concluded,—(1) for reduction of the decree of removing and ejection; (2) for declarator that he was a crofter within the meaning of the Crofters Holdings Act; (3) *or otherwise*, for declarator, that he was a cottar, and as such was entitled to compensation for permanent improvements; (4) *or alternatively*, that a contract of feu had been concluded between him and the late Keith Macalister, and that the landlord was bound to execute a feu-charter in his favour, and to rebuild the subjects demolished. The Court held that Macdougall was not a crofter within the meaning of the Act; that he was not a feuar, and that it was incompetent for a "cottar" to claim compensation for improvements under the Crofters Holdings Act, 1886, in the Court of Session—the Crofters Commission being the proper tribunal.

On 16th September 1893, Macdougall applied to the Commission as a "cottar," for compensation for improvements executed, or paid for by him, on the subjects at Cour. At the hearing on 22nd September, the respondent took as a preliminary objection to the Application, that it had not been timeously made. The Commissioner repelled the said objection, and after inquiry found that the applicant was a cottar, and as such was entitled to compensation for improvements upon an assessment of what the value would have been to an incoming tenant, had they been allowed to remain, and ultimately fixed such compensation at £40. The following is the Order issued:—

"EDINBURGH, 15th December 1893.

"The Commissioner having heard parties, and considered the Minute of Objection stated for the respondent, marked 702/2, Finds, with reference thereto, that the respondent takes no prejudice by reason of the delay which has arisen in lodging this Application, as he destroyed the subjects in question immediately, or soon after, the removal of the applicant: Therefore repels the Objection that this Application has not been made timeously: Finds that, at the passing of the Act, the applicant was a cottar at Cour, Carradale, on the property of the respondent: Finds that, on or about 14th June 1889, the applicant was ejected by the respondent from the house and subjects held by him as a cottar: Finds that, immediately or soon after the said ejection, the respondent demolished or removed the whole erections put up by the applicant, or otherwise effaced the evidence of improvement operations which had been carried out by the applicant: Finds that this proceeding in no way invalidates the applicant's claim, though it has tended to cause some difficulty in forming a correct judgment in the matter: Finds, under Section 9 of the Act, that the applicant became entitled to compensation after he was removed, under an assessment of what the value of the said subjects would have been to an incoming tenant, had they been allowed by the respondent to remain: Assesses the said compensation at the sum of £40 sterling: Finds the applicant entitled to expenses: Modifies the same to the sum of £1, 10s. sterling, and decerns.

(Signed)

"W. HOSACK"

(3) COUNTY OF INVERNESS.

[A] REGULATIONS AS TO USE OF PEAT-MOSSES—TOWNSHIP OF BALEMARTIN, NORTH UIST.

The crofters of the township of Balemartin, North Uist, applied to the Commission to adjust a scheme under which they might exercise their right to peats. The respondent, Sir J. W. P. Campbell-Orde, met the Application by offering them access to the common moor by the road previously used by the township of Tighary, but that they were to bear their share of the expense of the upkeep of the road in common with the Crofters of the latter township. The Commissioner found this proposal legitimate and reasonable, and issued the subjoined Order :—

“ DINGWALL, 3rd August 1893.

“The Commissioner having resumed consideration of this Application, together with the relative Application craving that a scheme be adjusted under which the crofters of Balemartin may have and exercise the right of cutting, curing, and away taking peats for the reasonable purpose of their holdings : Finds that the respondent has met the said Application in the Minute lodged 4th July 1891, and marked D/942, by a statement that intimation would be made, through his estate officer, to the crofters of the township of Tighary, that the crofters of Balemartin are to have access to the common moor by the road hitherto used by the said township of Tighary, and that they are to bear their share of the necessary upkeep of said road in common with the Tighary crofters : Finds that this proposed arrangement by the respondent is legitimate ; and, further, is in the whole circumstances the most reasonable that could be suggested : Therefore Finds and Declares, in answer to this Application, that the crofters of Balemartin in future have right to cut, cure, and away take peats, for the reasonable purposes of their holdings, from the said common moor : Finds that in so doing they have right to all reasonable use of the road above-mentioned : Finds that they are bound, and hereby decerns and ordains them to bear their share of the necessary upkeep of the said road in common with the Tighary crofters : Ordains the Sheriff-Clerk to make intimation of this Order to the crofters of Tighary by causing a copy thereof to be posted up on the doors or walls of the churches and schoolhouses in the district : Reserve to parties to apply further as to the carrying out hereof, if so advised.

(Signed)

“ P. B. MACINTYRE.”

[B] REGULATION AS TO USE OF SEA-WEED, &c.—TOWNSHIP OF TIGHARY, NORTH UIST.

The crofters of the township of Tighary, on the same Estate, applied to the Commission to draw up a scheme regulating the use by them of sea-weed to be obtained from the sea-shore opposite Balranald Farm. The respondent, Sir J. W. P. Campbell-Orde, opposed the Application, on the ground that, though the sea-weed on the said shores was reserved to the landlord under Lease of the Farms of Balranald and Eval entered into in 1884, the tenant of these by a proviso in the said Lease was at liberty to take as much of it as was desired for manure for the said farms. The Commissioner found that the sea-weed could not be given to the applicants without the consent of the landlord and of the said tenant, and accordingly the Application was dismissed. The following Order was issued :—

“ DINGWALL, 3rd August 1893.

“The Commissioner having resumed consideration of this Application to draw up a scheme regulating the use by them of sea-weed, for the reasonable purposes of their holdings, obtainable from part of the sea-shore opposite the Farm of Balranald, Finds that, at or about Whitsunday 1884, the said Farm of Balranald, also the Farm of Eval, was let on Lease for ten years, from that term, and expires accordingly at Whitsunday 1894 : Finds that the said Lease is still current : Finds that it contains a clause reserving to the proprietor the sea-ware along the shores of the lands let, with full power to manufacture and carry away the same, but subject to the proviso that the said tenant shall have liberty to take as much of the sea-ware as may be necessary for manuring the said farms : Further Finds it provided by the said Lease, with regard to the claim of drift-weed for manure on the said farm, and on the Farm of Peinmore, that the neighbouring tenants are not allowed to take up weed south of the march of Peinmore, viz., the march between the Farms of Peinmore and Balranald : Finds that, by Order of 11th December 1891, the Applicants were allowed to lodge a statement, with reference to an Excerpt from the said Lease, containing the foresaid provisions and declarations produced and marked 7/943, but Finds that they failed to lodge such statement ; and, having regard to the said provisions and declarations, Finds that effect cannot competently be given without the consent of the respondent and the tenant of Balranald to the Application hereby made : Finds that such consent has not only not been accorded, but that the present Application is opposed by the respondent on the strength of the foresaid Lease : Therefore refuses the same in so far as directed to the above object : Also refuses the Application for right to use certain peat roads therein mentioned.

(Signed)

“ P. B. MACINTYRE.”

(4) COUNTY OF ROSS AND CROMARTY.

BENDAMPH MARCH QUESTION, TORRIDON.

During the hearing of the Fair Rent Applications lodged by the landlord, the Earl of Lovelace, for the township of Annat, a question arose as to the march between the common pasture of the township and the forest of Bendamph. The crofters claimed a right to graze their stock over the whole forest; and the landlord contended that the crofters had no right of grazing over the forest as a whole; but that they had a tolerance or privilege of grazing over a small portion of hill ground, forming part of the forest, and confined within a line of march. The Commissioner issued the following Order dealing with the case:—

“EDINBURGH, 15th December 1893.

“The Commissioner having resumed consideration of this Application, considered the evidence adduced, and made due inspection of the ground, Finds that, prior to the acquisition of the Estate of Bendamph by Lord Lovelace, through purchase from Mr Duncan Darroch of Torridon, the crofters enjoyed for some years a tolerance or privilege of grazing first one cow and follower and afterwards two cows and followers, each on a certain small portion of hill ground which is included in, and forms part of, the forest of Bendamph: Finds that, after the acquisition of the said property at Whitsunday 1886 by Lord Lovelace, the said crofters continued to possess and enjoy a similar privilege of grazing, and had that privilege at the date of the passing of the Act: Finds, therefore, that the said privilege is now to be regarded as a statutory right of grazing to the extent above-mentioned, and is to be deemed and taken as part of their holdings under the Statute: But Finds that the crofters have failed to prove that they possessed at any time, either under Mr Darroch or under Lord Lovelace, a right of grazing over the whole of the said forest: Finds, on the evidence, that while the privilege of grazing existed as aforesaid, and was confined within a line of march, which, owing to the roughness of the ground and other circumstances, was somewhat vague, it is now right and proper, and within the power of the Commissioner, to fix the line of march between the land open to the crofters for the grazing purposes aforesaid, and the land exclusively used for deer forest: Finds and Declares that this line of march runs from the point A to the point F, and is lettered A, B, C, D, E & F on the Plan produced and marked B/1334: Allows the landlord to erect and maintain such fence as he may consider necessary for dividing the forest from the said grazing; and, having regard to the roughness of the hill ground, over which the said fence must be carried, authorises the landlord to deviate, wherever this may be necessary or desirable, from the line lettered as aforesaid: Finds that, in consequence of the line of march being, as aforesaid, the area of the common pasture on Schedule B, falls to be amended by adding thereto 122 acres: Amends the Application accordingly, and Finds and Declares that the said additional pasture falls to be taken into consideration in fixing the Fair Rents of the crofters.

(Signed)

“P. B. MACINTYRE.”

(5) COUNTY OF CAITHNESS.

[A] COMPENSATION FOR IMPROVEMENTS—(a) CASE OF WIDOW JESSIE GUNN OR CALDER, CORSBACK.

On 13th January 1892, Widow Jessie Gunn or Calder gave notice to the landlords, the Trustees of J. C. Traill, that she was to quit her holding at Corsback at Whitsunday following, specifying certain improvements for which she sought compensation under the Act. Thereafter, on 16th May 1892, an Application was lodged by her in which she claimed £210 as the amount of compensation to which she was entitled. The respondents objected to the Application, *inter alia*, that the applicant was not a crofter, and to the claim, that it was, in any event, grossly excessive. The Commissioner repelled the former Objection, finding the applicant a crofter, and entitled to compensation, as at the date of her removal from the said holding, and fixed the same at £67, 10s., with expenses, modifying these, however, to £2, 2s., in respect the sum claimed so greatly exceeded the sum awarded. The following is the Order in the case, viz.:—

“EDINBURGH, 17th March 1893.

“The Commissioner having heard parties, and made due inspection of the holding, with reference to the subject matter of this Application, Finds and Declares that the applicant is a crofter within the meaning of the Act, and repels the first plea stated for the respondents in their Minute marked 1196/H, but under reference always to the Order and Note of 16th September 1890, issued in the relative Fair Rent Application by the applicant, and set forth in the Report for that year, page 201: Finds and Declares that the applicant has duly renounced her tenancy, and removed from her holding as at Whitsunday 1892, and that she is entitled to compensation for permanent improvements under Section 8 of the Act, provided they are suitable to the holding; that they have been executed or paid for by the applicant or her predecessors in the same family; and that they have not been executed in virtue of any specific agreement in writing, under which the applicant was bound to execute such improvements: Finds that no specific agreement in writing has been pro-

duced or proved in the course of the inquiry, and therefore repels the second plea stated for the respondents in the said Minute: Finds that, in other respects, the claim made is well founded in fact and law: Finds and Declares, as the result of inspection and valuation of the whole improvements on the holding, that the amount of compensation to which the applicant is entitled under the said Act, is £67, 10s. sterling, with interest at 5 per cent. per annum, from this date to the date of payment: Finds the applicant entitled to expenses: Modifies these to the sum of £2, 2s. sterling, and decerns.

(Signed)

"P. B. MACINTYRE."

"*Note*—The expenses have been modified, as the sum claimed greatly exceeds the sum awarded.

(Initialed)

"P. B. M."

(b) CASE OF JAMES MACDONALD, NEWLANDS OF GEISE.

James Macdonald, Newlands of Geise, on the Estate of Ulbster, applied to the Commission to fix compensation for improvements executed, or paid for by him, on his holding. The respondent, Sir J. G. Tollemache Sinclair, contended that any improvements executed between Whitsunday 1872 and Whitsunday 1886 were executed in virtue of a specific agreement in writing, having been done under and in terms of a Lease granted to Robert Mackay, father-in-law of the applicant, and to which the applicant succeeded in 1881, and that therefore no compensation was due in respect thereof for the said period. But he allowed the right to compensation for improvements executed after expiry of the said Lease. It was admitted that the applicant was due to the respondent £26, 13s. for arrears of rent and expenses, and it was agreed that this sum should be set against any compensation awarded. The amount of compensation was fixed at £24, 2s. 8d., but no payment was ordained to be made to the applicant in respect of the foresaid indebtedness, the sum awarded having been thereby extinguished. The Application was dismissed, and the applicant found liable in modified expenses. The following Order was issued:—

"EDINBURGH, 17th March 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Finds that the respondent let the holding in question to Robert Mackay, farmer, under written contract of Lease, dated 21st August 1873, produced and marked 1195/B, for a period of fourteen years, from and after Whitsunday 1872, for a rent and under the other prestations and obligations set forth therein: Finds that the present applicant took up the foresaid Lease as at Whitsunday 1881 on the decease of, and in succession to, the said Robert Mackay, who was his father-in-law: Finds it admitted by the respondent that the applicant is entitled to compensation in respect of improvements executed after the date of expiry of the said Lease: But Finds it also admitted that the applicant is due £20, 1s. in name of arrears of rent, and £6, 12s. 4d. being expenses of warrant of removing,—in all, £26, 13s.: Finds that the sum due in respect of improvements executed after the said date may be taken as amounting to £24, 2s. 8d.: Finds and Declares that the respondent agreed at the hearing that the foresaid sum of £26, 13s. may be set against the last-mentioned sum of £24, 2s. 8d.: And Finds, accordingly, that no sum remains due in name of compensation by the respondent to the applicant in the present proceedings, the said claim having been extinguished as above set forth, and explained: Therefore dismisses the present Application: Finds the applicant liable in expenses: Modifies these to the sum of 10s. 6d. sterling, and decerns.

(Signed)

"P. B. MACINTYRE."

(c) CASE OF JOHN LEITH, KEISS.

John Leith, Keiss, on the Estate belonging to Francis Tress Barry, M.P., applied to the Commission to fix compensation for the improvements executed by him on his holding. The amount claimed was £126, 15s. After inquiry and inspection, the Commissioner fixed the compensation at £43. The following is the Order:—

"EDINBURGH, 17th March 1893.

"The Commissioner having heard parties, and considered the evidence adduced, Finds and Declares that the applicant is a crofter within the meaning of the Act, and has duly renounced his tenancy, and removed from his holding, as at Whitsunday 1892: Finds that he is entitled to compensation for permanent improvements under Section 8 of the Act, provided they are suitable to the holding, that they have been executed or paid for by the applicant or his predecessors in the same family, and that they have not been executed in virtue of any specific agreement in writing under which the applicant was bound to execute such improvements: Finds that no specific agreement in writing has been produced or proved in the course of the inquiry, and that the present Application is competent and reasonable: Finds that the sum claimed is £126, 15s.; while, on the other hand, an offer has been made of £30 as in full: Finds, after due inspection of the subjects, and of the improvements executed both on the land, dwelling-house, and offices, that the total sum to which the applicant is entitled is £43 sterling: Decerns for that amount, with interest at 5 per cent. per annum, from this date to the date of payment: Finds no expenses due to or by either party.

(Signed)

"P. B. MACINTYRE."

"*Note*.—As the sum tendered by the respondent much more nearly approached the sum now found due than is the proportion of the sum claimed to that found due, the Commissioner is of opinion that the applicant is not entitled to any expenses.

(Initialed)

"P. B. M."

APPENDIX T.

REGULATIONS UNDER THE CROFTERS COMMON GRAZINGS REGULATION
ACT, 1891.

(1) COUNTY OF ARGYLL—TOWNSHIP OF PORTUARICK, ARDNAMURCHAN.

The crofters of the township of Portuarick, Ardnamurchan, the Estate of Mr J. J. Dalgleish, appointed a committee to frame rules and regulations under the Crofters Common Grazings Regulations Act, 1891. The said committee thereafter submitted to the Commission a set of rules for approval. The Commissioners, after inquiry, refused to approve of the rules as stated, and instead enacted and declared the following:—

1. Each crofter shall have an equal share and interest in Portuarick common grazing, and the souming of each crofter shall be two cows and their followers.

2. It shall be in the power of the committee to let the township on behalf of the crofters for the wintering of hogs.

3. The committee shall have power to engage a herd for the township, and to fix a sum to be paid by each crofter for his services in proportion to his interest in the common pasture.

4. The Winterton dyke, separating the crofts from the common grazing, shall be re-erected where necessary, and maintained by the crofters jointly in equal proportions.

5. The crofters shall be entitled to use the pass leading from the sea-shore to the common grazing between the holdings of Widow Ann Macdonald or Livingston and Angus Macpherson, and it shall be the duty of the crofters to erect and maintain fences on each side of the pass sufficient to prevent the stock straying on to the adjoining crofts. The fences to be erected at their joint expense.

(Signed)

“DAVID BRAND.
“W. HOSACK.”

(2) COUNTY OF INVERNESS.

(a) TOWNSHIP OF BALEMORE. (b) TOWNSHIP OF KNOCKLINE. (c) TOWNSHIP OF ILLERAY.
(d) TOWNSHIP OF MALACLETE, NORTH UIST.

Committees appointed for each of these townships respectively lodged Applications for approval of proposed regulations. These townships, along with certain others for which no Applications have been made, all share in the same general common pasture, which extends to 10,000 acres or thereby; while each of them has, in addition, special pasture for the exclusive use of its own members—the crofters and others of such township. The necessity for uniformity of regulations impressed itself upon the Commissioner, and in dealing with the several Applications regard was had to this fact—the proposed regulations submitted having been disapproved of, and those underspecified issued in their stead. From the note appended thereto it will be seen that the Commissioner expressly urges upon the different Committees the propriety and wisdom of co-operating in the management of the general common pasture. The following are the regulations:—

1. The souming of each full croft shall be two horses, five cows, and sixteen sheep. The grazing of stock shall be calculated on the footing of one cow being equivalent to four sheep, and one horse to two cows or eight sheep.

2. No crofter shall be allowed to keep any excess stock; but, in the event of any crofter not being able to maintain his or her full souming, the committee shall have power to extend the right to such crofter or crofters as they may determine, of grazing extra stock to the extent of such deficiency; but that only upon payment to them, by the person or persons so grazing, of such sum or sums as the committee may fix; said sums being paid over to the crofter or crofters undersoumed in proportion to the deficiency in their souming.

3. The committee shall have the right of appointment and employment of such herd or herds as they may deem necessary for the requirements of the township, upon such conditions and terms as to payment and otherwise as they may determine, with power to the committee to levy rateably and collect such remuneration from the parties interested in the said common grazing.

4. The committee shall appoint certain days for the gathering of sheep for the purposes of marking, clipping, counting, weaning, and smearing or dipping; and no crofter (other than the herd) shall be at liberty to gather sheep on any other occasion for any purpose whatever, except with the express permission and approval of the committee.

5. The committee shall have the entire management and control of such bull or bulls as may be required for the service of the township stock, and shall be at liberty to buy or sell same as occasion may demand.

6. The committee shall be entrusted generally to do what is requisite for the good management of the said common grazing, and, in particular, to maintain in repair the township roads, to cause bogs and marshes to be drained, and dangerous water-courses to be bridged, as they may deem advisable; the cost of such improvements to be apportioned among and payable by the parties interested in the said common pasture, according to their respective interests.

7. The committee shall have power to make a proper division of sea-ware among the crofters of the township.

(Signed)

"P. B. MACINTYRE."

Note.—The Commissioner observes that several townships are interested in the same common pasture as the township of Balemore, and among others the townships of Illeray, Knockline, and Malaclete. Applications under the Crofters Common Grazings Regulation Act, 1891, have also been received from these latter townships, and Orders made therein, of even date with the Order herein, setting forth similar regulations for the observance of the respective committees; and, while he has in each case given the same powers with regard to the management of the said common grazing, he would impress and urge upon the committee the necessity and advisability of dealing with all matters concerning the same, in conjunction and co-operation with the committees of the other townships interested. And particularly in fixing dates for the gathering of stock, and in the appointment of shepherds (Rules 3 and 4), is this the case, as by mutual agreement of the committees one or two such herds might be made to suffice for the sheep stock of the whole townships, and disputes and conflicts of parties avoided.

(Initialed)

"P. B. M."

(e) TOWNSHIP OF BALESARE. (f) TOWNSHIP OF CLADDACH BALESARE, NORTH UIST.

Regulations similar to those for the immediately preceding townships (except No. 1, which differs in regard to souming, &c., and which is subjoined) were issued by the Commissioner for the management of the grazings common to the townships of Balesare and Claddach Balesare. Applications were lodged by both townships; and in disposing thereof, the Commissioner, by Note, points to the advisability of joint action by the committees in affairs relating to the common pasture:—

1. The souming of each full croft shall be one horse, two cows, eight sheep. The grazing of stock shall be calculated on the footing of one horse being equivalent to two cows or eight sheep, and one cow to four sheep.

2, 3, 4, 5, 6, and 7 similar to the immediately preceding Regulations of same Nos.

(Signed)

"P. B. MACINTYRE."

(g) TOWNSHIP OF CARINISH, NORTH UIST.

The committee appointed by the crofters of the township of Carinish made Application under the Grazings Act, and the Commissioner issued the following regulations:—

1. The souming for each full croft shall be two horses, four and a half cows, and sixteen sheep, and for each of the seven moss crofts one horse, two cows, and eight sheep.

2. The relative value of grazings for the different kinds of stock shall be one horse equal to two cows or eight sheep, and one cow equal to four sheep.

3. In the event of any crofter or crofters being unable to maintain his full souming, the committee shall have power to grant liberty to another crofter or crofters in the township to keep surplus stock to the extent of the deficiency thus arising. For such surplus stock the committee shall charge a grazing rent, and hand the same to the crofter or crofters undersoumed. Under no other circumstance shall a crofter be permitted to keep an overstock.

4. The committee shall have power to appoint a herd or herds upon such conditions as to remuneration or otherwise as they may deem fit—said remuneration being chargeable against and payable by the crofters in proportion to their respective interests in the common pasture.

5. The committee shall appoint certain days for the gathering of sheep for the purposes of marking, clipping, weaning, and smearing or dipping; and no crofter shall be allowed to gather sheep on any other days, except upon the express consent of the committee.

(Signed)

"P. B. MACINTYRE."

(h) TOWNSHIP OF ACHINTORE, LOCHIEL.

This Application was by five crofters in the township of Achintore, who were elected a Committee for the purpose of drawing up regulations for the due management of the common pasture of the township and locally known as Achintore hill. Before dealing with the proposed regulations submitted for approval, the Commissioners issued a preliminary Order by which the respondent, Cameron of Lochiel, was afforded an opportunity of lodging a statement of his observations with regard thereto. By letter, dated 31st October 1893, from the respondent's agent, the respondent was seen to concur in the said proposed regulations, and they were subsequently approved by the Commissioners, and became the rules applicable and pertaining to the said township—power being reserved to the Committee to apply further with regard to the carrying out or amendment of same. They are as follows:—

1. That when the crofter has not the full stock of cows effeiring to his croft or crofts, he shall be allowed to place on the common grazing one horse in place of two cows, or two stirks—one under two years old and the other under one year—in place of one cow or two stirks both under one year old.

2. No crofter shall be allowed to keep any sheep on the grazing.

3. The committee for the time being shall be empowered to keep a stud-bull on the grazing, with power to sell and buy one at such time as the committee shall consider necessary; each croft to contribute towards the cost at the rate of one share for each croft. Each crofter shall also contribute towards the winter keep of the bull one and a half stone of hay and two stones of unthrashed oat straw.

4. A herd shall be kept to take charge of the cattle grazing on the common pasture at an annual wage of £8, with dwelling-house and a croft carrying two cows.

5. The winter grazing of the township to be let from 1st November to 1st April following annually.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(3) COUNTY OF ROSS AND CROMARTY—(a) TOWNSHIP OF STRATH, GAIRLOCH.

In an Application by certain crofters from this township, the property of Sir Kenneth S. MacKenzie of Gairloch, Bart., for approval of proposed regulations, the Commissioners refused to pass the same, and in lieu and stead thereof, appointed the regulations under specified, as those to be observed by and binding upon parties interested in the common pasture of the said township, viz:—

1. The grazing of stock shall be calculated upon the footing of one cow being equivalent to four sheep, and one horse to two cows or eight sheep.

2. The committee shall have the exclusive right of fixing the number of sheep, cattle, and horses to be grazed by each crofter on the common pasture, and no crofter shall be at liberty to keep any excess stock. But in the event of any crofter not being able to maintain his or her full soum- ing, the committee shall have power to extend the right, to such other crofter or crofters as they may determine, of grazing extra stock to the extent of such deficiency; and that upon payment to them, by the person or persons so grazing, of such sum or sums as they may fix, said sums being paid over to the crofter or crofters undersoumed in proportion to their respective interests in the said grazing.

3. The committee shall have the right of appointment and employment of such herd or herds as they may deem necessary for the requirements of the township, upon such conditions and terms as to payment and otherwise as they may determine, with power to the committee to levy rateably and collect such remuneration from the parties interested in the said common grazing.

4. The committee shall appoint certain days for the gathering of sheep for the purposes of marking, clipping, counting, weaning, and smearing or dipping; and no crofter (other than the herd) shall be at liberty to gather sheep on any other occasion for any purpose whatever, except with the express permission and approval of the committee.

5. The committee shall have entire management and control of such bulls and tups as may be required for the service of the township stock, and shall be at liberty to buy or sell the same as occasion may demand.

6. The committee shall be entrusted generally to do what is requisite for the good management of the said common grazing, and in particular to cause bogs and marshes to be drained, and dangerous water-courses to be bridged, as they may deem advisable—the cost of such improvements to be apportioned among, and payable by, the parties interested in the said common pasture, according to their respective shares or interests.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(b) TOWNSHIP OF POOL, GAIRLOCH.

The crofters of this township, on the said Estate of Gairloch, lodged proposed regulations, but the Commissioners disapproved thereof, and issued the following for their observance and guidance, viz. :—

1. The souming of each croft shall consist of three cows and one stirk, with fifteen sheep; six sheep shall be equal to one cow, and two cows shall be equal to one horse, for each of eleven crofts.

2. The grazing value of stock held in excess of the souming by any crofter shall be disposed of by the committee by being divided among those who are short of stock, according to the degree of shortcoming.

3. It shall not be lawful for any crofter to take any stock from strangers or others in order to make up his souming, without the consent in writing of the committee.

4. The grazing rent of such stock admitted by the written consent of the committee shall be paid to the committee by the owners of stock, and the same shall be divided by the committee proportionally among those who are short of stock.

5. No peat-banks shall be opened in any place considered by the committee dangerous to stock, or injurious to pasture.

6. After peat-banks have been cut, the green sward shall in every instance be carefully replaced, and in no case shall standing water be allowed to lodge in such banks.

Reserve to parties to apply further for the alteration or amendment of these rules, if so advised.

(Signed)

“DAVID BRAND.
“W. HOSACK.”

(c) TOWNSHIPS OF SOUTH ERRÁDALE, OPINAN, PORT-HENDERSON, AND BADANINAL, GAIRLOCH.

A committee representing these townships lodged an Application setting forth regulations drawn up by them for approval of the Commissioners. The Commissioners disapproved of the said proposed regulations, substituting therefor the following, viz. :—

1. Two cows and their followers till twelve months old, and twelve sheep and their followers till twelve months old, shall be allowed for every hill share.

2. One horse shall be deemed equal to ten sheep, one cow to five sheep, and one stirk from one year old till two years old shall be deemed equal to three sheep.

3. Crofters having overstock may be allowed, with the written consent of the committee, to get grazings from those that have not sufficient stock, and both parties shall be bound to give a true statement of their dealings in writing to the committee.

4. Cottars shall not be allowed to keep sheep, except with the written sanction of the committee.

5. A shepherd shall be engaged by the committee, and shall be paid by all the crofters concerned through the committee, according to the stock held by each crofter, and in such sum as may be assessed in each case by the committee.

Reserve to parties to apply further for the alteration or amendment of these rules, if so advised.

(Signed)

“DAVID BRAND.
“W. HOSACK.”

(d) TOWNSHIP OF ARIENECKAIG, STRATHCARRON.

The crofters of the township of Arieneckaig, on the Estate of Edderacharron, the property of Sir Kenneth J. Matheson, Bart., of Lochalsh, applied to the Commission for approval of regulations under the Grazings Act. The proposed regulations set forth in the Application were disapproved, and in place thereof the following were enacted, viz. :—

1. The committee shall have power to regulate and manage the sheep stock, to engage shepherds, to fix their wages, and to receive and give instructions regarding the herding, dipping, and clipping of sheep, weaning of lambs, &c.

2. The committee shall fix the dates for gatherings, and no gathering of sheep shall be permitted except on such dates as are fixed upon by them.
3. The committee shall have power to sell the wool and surplus stock each year, and to purchase such tups as may be necessary for use among the common stock.
4. The committee shall be entitled to allocate a certain number of lambs to grass on each croft on or about the 20th October, and it shall be their duty to arrange for the proper wintering of the hogs throughout the season.
5. All crofters in the township shall keep and herd their cattle stocks within their crofts, including the outruns, during the whole year, with the following exceptions, viz :—
6. Each crofter shall be entitled to graze one horse, two heifers, and one stirk on the common hill pasture from 1st June till 10th November. The stirks shall be allowed to graze on the low portion of the common grazing after 1st September.
7. Each crofter shall have all his turnips stored by the 20th December ; and from 31st December till 31st March following, in each year, the gates affording access to the crofts, including outrun, shall be kept open to allow the sheep to enter and graze thereon.
8. No crofter shall be at liberty to disturb or remove the sheep while grazing on the crofts, including outruns, during the foresaid period, nor shall a crofter be at liberty to disturb the sheep on the common grazing at any time of the year.
9. Each crofter shall have the fences and gates enclosing his croft, including outrun, in a substantial state of repair by the 1st March in each year, and shall properly maintain these fences throughout the season. In the event of any crofter neglecting to have such done in due time it shall be in the power of the committee to have the necessary repairs made, and charge the defaulter with the expenses incurred.
10. No crofter shall be at liberty to alter existing burns or water-courses, unless with the consent of the proprietor or his factor in writing.
11. No divots or turf shall be allowed to be cut on any green land on the common pasture.
12. March dykes or fences between the crofts shall be erected and upheld at the joint expense of parties interested.
13. The committee shall account to the crofters of the township for the proceeds of the sales of sheep and wool ; and after the necessary expenses incurred in connection with the herding, dipping clipping, &c., are defrayed, they shall divide the balance among the parties concerned, in proportion to their respective interests in the stock.

(Signed)

"DAVID BRAND.
 "W. HOSACK.
 "P. B. MACINRYE."

(e) TOWNSHIP OF UPPER SHADER, LEWIS.

Proposed regulations were submitted by the committee appointed by the crofters of the township of Upper Shader, Lewis, the property of Lady Matheson, for the sanction of the Commissioners. The said proposed regulations were, however, disapproved, and in lieu and stead thereof the Commissioners ordained the following to be the rules and regulations to be observed by the Committee, viz :—

1. The committee shall assign or apportion one cow, one stirk, and ten sheep to each share of the total number of 100 full shares into which the right of grazing was divided under the Fair Rent Applications disposed of in 1888, and set forth in the Report of the Crofters Commission for that year. One cow shall be equal to five sheep, and one horse shall be equal to eight sheep.
2. The committee shall have full power to engage such herd or herds as they may deem necessary for looking after the stock, and for regulating all details in connection with the stock management.
3. The committee shall see that all sheep are sent to the hill pasture not later than the 15th May of each year, and that all cattle are removed to the sheilings or summer grazings by or before the 1st of June ; but the committee are not called on to apply this rule to any case deemed by them to be exceptional.
4. The burning of heather and the cutting of peats and turf shall be regulated and sanctioned by the committee and ground officer.

5. The committee shall have power to compel the erection and due upkeep and repair of such dykes as are necessary for the townships, and also to authorise and compel the construction and maintenance of township roads and water-courses.

6. The committee shall have power to levy assessments rateably, in proportion to the shares held for the payment of herds' wages, the dipping or smearing and clipping of sheep, and such other expenditure deemed necessary by them in the common interest, and coming within the scope of the Grazings Act, 1891.

7. The committee shall have full power to stop interference with the common pasture by cottars or others, and shall also have power to deal with those persons, by removal or otherwise, who have already interfered with the common pasture, including those who may have erected houses thereon.

8. The committee shall have no power to authorise the erection of any dwelling-house, or other building of any kind, upon the said common pasture.

(Signed)

" DAVID BRAND

" W. HOSACK.

" P. B. MACINTYRE. "

(f) TOWNSHIP OF UPPER AIRD, LEWIS.

The committee appointed by the crofters of the township of Upper Aird, Lewis, the property of Lady Matheson, submitted proposed regulations—6 in all—for approval by the Commissioner. Nos. 1, 2, 3, 4, & 5, as undernoted, were approved, and became the regulations of the township. No. 6 was rejected:—

1. That the stock allowed for each pound sterling of rent be one cow, one two year old heifer, and six sheep.

2. That the stock be placed without the township dyke at the time appointed by the committee.

3. That each crofter shall keep in repair his own share of the township dyke.

4. That it shall be the duty of each crofter to lead off water that may lodge on his croft in such a way that no injury be done thereby to the croft of his neighbour.

5. That no new peat-banks be cut without the sanction of the committee. All new peat-banks must be cut in such a way that the water may flow freely from them.

(Signed)

" DAVID BRAND.

" W. HOSACK."

(g) TOWNSHIP OF GRAVIR, LEWIS.

The committee appointed by the crofters of the township of Gravir, Lewis, the property of Lady Matheson, submitted certain proposed regulations for approval. These were disapproved of by the Commissioners, and the following regulations issued in their stead, viz. :—

1. The stock of each holding shall be in proportion to the rent of such holding as it stood in 1886, and as follows, viz. :—One cow, one stirk, and five sheep shall be the souming per £1, 10s. of the rent in 1886, and the grazing of one cow shall be equal to five sheep, and of one stirk to three sheep.

2. The committee shall have full power to engage a herd or herds, and to superintend and direct the management of the stock, and shall likewise have power to make such assessments as are necessary for the payment of such herd or herds.

3. The committee shall have power to direct the repair and upkeep of township dykes, and each crofter shall be liable therefor to the committee in proportion to the rent he pays.

4. No sheep shall be allowed to be tethered during summer on the pasture attached to the crofts, except such as are weak and not able to be sent to the common grazing, or such as the township herd shall find it impossible to drive away to the common grazing, and any ambs belonging to or milking such sheep shall also be tethered, except while milking their mothers.

5. Certain days shall be fixed for gathering sheep grazing on common pasture; and, with a view to the prevention of damage and injury, no dogs, except the shepherd's dog, shall be taken to the common pasture for catching sheep, except on gathering, fanking, or fleecing days, and on such days, only such limited number of dogs as the committee may see fit to allow.

6. The sea-weed belonging to the township shall be divided among the crofters therein in proportion to the rent paid for each holding.

(Signed)

" DAVID BRAND.
" W. HOSACK.
" P. B. MACINTYRE."

(h) TOWNSHIP OF VATISKER, LEWIS.

Under an Application from the township of Vatisker, Lewis, the property of Lady Matheson he committee appointed by the crofters were empowered to:—

1. Prevent any person belonging to any other township or district from cutting peats or turf, or in any way injuring the surface of the Vatisker grazing ground.

2. Prevent any person belonging to any other township or district from carrying on regular traffic on roads solely maintained and upheld by the township of Vatisker, or through any cultivated land belonging to any tenant or tenants in the said township; but the committee, in the carrying out of this rule, to give due effect to all existing rights of way which are hereby reserved to those concerned.

3. Compel all tenants having stock of cattle, sheep, or horses, in the said township, to send such stock or part thereof out to the moor pasture at, and for such times, as the committee may determine.

4. Regulate the amount of stock to be held by each tenant in the said township, but the souming not to exceed one cow and follower till a year old, and six sheep per pound sterling of rental.

5. Turn off all sheep dogs from the grazing lands under their management, except such as in their judgment are required for the due herding, control, and management of sheep stock.

6. The committee shall have no power to authorise the erection of any dwelling-house or other building of any kind upon the common pasture, or grant permission to cottars or squatters to cultivate any portion of the township pasture lands.

(Signed)

" DAVID BRAND.
" W. HOSACK.
" P. B. MACINTYRE."

(i) TOWNSHIP OF CROMORE, LEWIS.

The committee appointed by the crofters of the township of Cromore, Lewis, the property of Lady Matheson, lodged an Application with certain proposed regulations for approval. The Commissioners disapproved, but in lieu and stead empowered the said committee as follows, viz. :—

1. To construct dykes and ditches for the purpose of preventing damage to crops and grazing.

2. To appoint shepherds to attend the cattle and sheep on the grazings under the management of the committee, to regulate the number of sheep dogs to be kept by such shepherds, and to prevent any other sheep dogs from straying over the grazing ground under their management.

3. The souming to be one cow and follower till a year old, and five sheep for each pound sterling of rental.

4. To prevent crofters from other townships from cutting sea-weed or tangles on the shores of the Cromore crofters, except in so far as the crofters of such townships may have any right thereto.

5. To prevent any person, with or without dogs, from going among the flocks under the management of the committee without the permission of the shepherd, but this rule not to affect the right of the sporting tenant and his servants to shoot with game dogs over the ground in question during the usual sporting season.

6. To see that all peat-banks are properly cut, thoroughly drained, and the turf laid evenly down, after cutting with the sward uppermost.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(k) TOWNSHIP OF UPPER CARLOWAY, LEWIS.

The crofters of the township of Upper Carloway, Lewis, the property of Lady Matheson, appointed a committee to draw up regulations for the township, for submission to the Commission thereafter for approval. An Application setting forth same was lodged, but the Commissioners disapproved of the proposed regulations, and issued the following, which empower the said committee :—

1. To restrict each crofter to a souming of one cow and follower and seven sheep for each pound sterling of rent paid by him.

2. To prevent any crofter from substituting sheep for cows, or cows for sheep, so as to make up the souming allowed to him.

3. To allow of each horse being held as equivalent to two cows, and to allow horses to feed on the common pasture inside the outer dyke simultaneously with the cows and sheep, but not otherwise.

4. To oblige each crofter to send his cattle to the shielings not later than the first week of June, and to keep them there for a period of not less than five weeks, according to the old established custom, and provided the weather is suitable.

5. To oblige each crofter to pay 1s. per pound sterling of rent for the service of a herd to protect the crops, and that such a sum be charged per sheep as will make up the wages of the herd, should it be found that the assessment of 1s. is inadequate.

6. To prevent any crofter or squatter belonging to a neighbouring township cutting peats on the applicants' pasture.

7. To provide that each peat-bank be not less than two feet in depth; also to provide that all peat-banks be properly cut and drained, and the turf laid down evenly with the sward uppermost.

8. To prevent any crofter from cutting up the surface of the green pasture for manure making purposes, or for any other purpose.

9. To provide that each crofter build or repair the outer dyke as of old, and help to keep the same in repair, under such directions as may from time to time be issued by the committee.

10. To provide that each crofter build or repair the dyke round his own croft, and keep the same in repair; also to provide that the sides of outside crofts should be upheld proportionally by the crofters of the whole township, in respect that they serve as part of the ring fence of the township.

11. To provide that each crofter build or repair the dyke midway between the outer dyke and the inner dyke, and help to keep the same in repair.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(4) COUNTY OF SUTHERLAND.

(a) TOWNSHIP OF SANGOBEG, &c., DURNESS.

An Application by a committee of crofters of the townships of Sangobeg, Lerin, Smoo, Sangomore, Durine, and Balvolich, on the Estate of the Duke of Sutherland, for approval of proposed regulations was lodged with the Commission, and after preliminary procedure the said proposed regulations were disapproved, and the following enacted in their stead, viz.:—

1. The stock carry of the common hill pasture shall be at the rate of one cow and six sheep per pound sterling of rent, the Fair Rent fixed by the Commissioners being the basis of calculation.

2. The grazing of a cow shall be equal to five sheep, and of a horse equal to eight sheep. Any crofter keeping a horse on the common grazing shall only be entitled to do so in lieu and stead of the stock grazing stated above.

3. The committee shall have power to engage herds for cattle and sheep, and levy the remuneration which they shall receive in proportion to the rents.

4. It shall be the duty of the committee to instruct the herds regarding the management of the stock and grazing.

5. The committee shall fix certain days for gatherings, with the object of marking, clipping, weaning, and dipping sheep, &c.; and no crofter or crofters, or members of families, shall be at liberty to gather sheep, except on such fixed days, and by special permission of the committee; but a crofter shall be at liberty to search for strayed sheep on obtaining the written consent of one member of the committee.

6. The crofters shall keep the dykes bordering their crofts in proper order and repair; and the dykes in connection with the common grazings shall be kept in repair by the crofters collectively. In the event of any crofter not duly fulfilling this regulation, it shall be in the power of the committee to have the same done forthwith at his or her expense.

7. No crofter shall be allowed to cut peats or divots on green pasture; and no new peat banks shall be opened without the consent of the landlord, or his factor, or ground officer. When such a peat-bank has been opened, it shall have a minimum breadth of three feet, and shall in all cases have a free outlet for water, and the turf shall be properly arranged annually with the heathery side uppermost.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(b) TOWNSHIP OF OLD SHOREMORE, EDDRACHILLIS.

The proposed regulations submitted for consideration of the Commissioners in an Application lodged by a committee of the crofters of this township, on the Estate of His Grace the Duke of Sutherland, were disapproved, and the following substituted therefor, and declared to be the regulations enforceable by the said committee, viz:—

1. The stock carry of the common hill pasture shall be at the rate of one cow and six sheep per £ of rent, the Fair Rent fixed by the Commissioners being the basis of calculation.

2. The grazing of a cow shall be equal to five sheep, and of a horse equal to eight sheep. Any crofter keeping a horse on the common grazing shall only be entitled to do so in lieu and stead of the stock grazing stated above.

3. The committee shall have power to engage herds for cattle and sheep, and levy the remuneration which they shall receive in proportion to the rents.

4. It shall be the duty of the committee to instruct the herds regarding the management of the stock and grazing.

5. The committee shall fix certain days for gatherings, with the object of marking, clipping, weaning, and dipping sheep, &c.; and no crofter or crofters, or members of families, shall be at liberty to gather sheep, except on such fixed days, and by special permission of the committee; but a crofter shall be at liberty to search for strayed sheep on obtaining the written consent of one member of the committee.

6. The crofters shall keep the dykes bordering their crofts in proper order and repair; and the dykes in connection with the common grazings shall be kept in repair by the crofters collectively. In the event of any crofter not duly fulfilling this regulation, it shall be in the power of the committee to have the same done forthwith at his or her expense.

7. No crofter shall be allowed to cut peats or divots on green pasture, and no new peat-banks shall be opened without the consent of the landlord, his factor, or ground officer. When such a peat-bank has been opened, it shall have a minimum breadth of three feet, and shall in all cases have a free outlet for water, and the turf shall be properly arranged annually with the heathery side uppermost.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(c) TOWNSHIP OF BLAIRMORE, EDDRACHILLIS.

The crofters of the township of Blairmore, on the Estate of Sutherland aforesaid, lodged an Application submitting certain proposed regulations for consideration. Of these the Commissioners disapproved, enacting in their stead the following as the regulations of the township, viz. :—

1. The souming or stock which each tenant is entitled to keep shall be at the rate of one cow and six sheep per £1 sterling of rent. The grazing of eight sheep shall be equivalent to one horse, and the grazing of five sheep to one cow. It is further hereby enacted and declared that those crofters who keep a horse are only entitled to do so by substituting the grazing of said horse for that of cows or of sheep at the rate stated.

2. The committee shall appoint a shepherd whose duty shall be to keep the low ground clear of sheep during summer, as well as the proper herding of the sheep in the common grazing whilst in his charge.

3. The committee shall appoint a herd to watch the yeld cattle and horses on the hill pasture from seed time to harvest.

4. The wages of herds shall be annually fixed by the committee at a capitation scale according to the stock to be watched.

5. The committee shall take due care that crofters shall keep the dykes bordering on their respective crofts in proper and tenantable repair; and shall decide any disputes arising between crofters with regard to drains or dykes.

6. The committee shall see that the dykes enclosing townships are repaired by the crofters of the said townships collectively; and in the event of any crofter absenting himself at the time of such repair, or not discharging his duty in the said matter without such excuse as shall appear reasonable to the committee, the committee shall cause the work to be done, and charge the cost thereof to the crofters failing therein.

7. The committee shall name certain days for gathering the sheep for castrating and weaning lambs, for sheep shearing, and for dipping or smearing, and no individual crofter shall undertake any of such duties himself; but in the case of lost or strayed sheep, a crofter may go in search of such on obtaining the written consent of one member of committee.

8. In the case of peat-banks, all such, when newly opened, shall have a minimum breadth of three feet, with a free outlet for water, and the turf must be properly arranged annually having the heathery side uppermost.

9. It shall not be competent for the committee to transact any business at a meeting unless a majority, viz., three or more members, shall be present; and any member of committee who, without reasonable excuse, absents himself from two meetings consecutively, shall forfeit his office.

Reserve to parties to apply further, if so advised.

(Signed)

“DAVID BRAND.

“W. HOSACK.

“P. B. MACINTYRE”

(d) TOWNSHIP OF BADNAMBAN, ASSYNT.

Certain crofters of the township of Badnamban, on the said Estate of Sutherland, lodged an informal Application setting forth proposed regulations for the consideration of the Commissioners. After preliminary procedure therein, a request was made by the Sheriff-Clerk to the applicants for payment of the fee-stamps payable on the said Application, in terms of No. 22 of the rules and regulations issued by the Commissioners. In respect the applicants failed to make the said payment, the Commissioners dismissed the Application,—reserving to them to lodge another Application in competent form. The following is the Order :—

“EDINBURGH, 4th November 1893.

“The Commissioners having resumed consideration of this Application, together with the certificate by the Sheriff-Clerk, dated 24th February 1893, and the letter from him to the Assistant-Clerk, marked 3/769, dismiss the same, in respect the applicants have failed to stamp the Application in compliance with No. 22 of the rules and regulations issued by the Commissioners, with approvals therein mentioned, and relative table of fees referred to in the said rule as applicable thereto: But reserve to the applicants to make another Application in competent form, if so advised: Finds no expenses due to or by either party.

(Signed)

“DAVID BRAND.

“W. HOSACK.”

(5) COUNTY OF SHETLAND—(a) TOWNSHIPS OF WEATHERSTA', BUBRAVOE, AND BRAE, DELTING.

An Application was presented by a Committee appointed by the crofters of the above townships, the property of the Trustees of the late Arthur Gifford, for approval of regulations therein set forth. As the proposed regulations did not meet the views of the Commissioners, the same were disapproved of, and the following prepared and issued in their stead, with power to apply further as to the alteration or amendment thereof, viz :—

1. The stock attached to each share shall not exceed forty sheep; the grazing of six sheep shall be equal to the grazing of one pony, and it shall be optional for any crofter to substitute ponies for sheep.

2. The committee shall appoint certain days for driving sheep for the purpose of marking, clipping, weaning, dipping, and marketing, and no crofter shall be at liberty to drive sheep without the consent of the committee; neither shall any crofter be at liberty to drive stock from any portion of the pasture with dogs.

3. The fences enclosing the crofts and outrun shall be maintained by crofters interested at sight and to the satisfaction of the committee.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(b) TOWNSHIP OF NORTH OLNAFIRTH, DELTING.

Application was made for approval of regulations for the township of North Olnafirth, also the property of the Trustees of the late Arthur Gifford. The said proposed rules were disapproved, and the following declared to be rules and regulations enforceable by the committee of the said township, power being reserved to parties to apply further in regard thereto.

1. The stock attached to each share shall not exceed sixty sheep. The grazing of six sheep shall be equal to the grazing of one pony, and it shall be optional for any crofter to substitute ponies for sheep.

2. All lambs shall count as sheep when one year old, and foals as ponies when eighteen months old.

3. The committee shall appoint certain days for driving sheep for the purpose of marking, clipping, weaning, dipping, and marketing; and no crofter shall be at liberty to drive sheep without the consent of the committee, neither shall any crofter be at liberty to drive sheep from any portion of the pasture.

4. The hill dyke shall be maintained by the crofters interested to the satisfaction of the committee.

5. A book for the registering of stock shall be kept by the clerk or secretary of the Committee.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(c) TOWNSHIP OF NORWICK, UNST.

An Application was lodged with the Commission by certain crofters appointed a committee for the township of Norwick, the property of Major Cameron, for approval of certain proposed regulations therein specified. These were disapproved, and the Commissioners found and declared that the following should be the rules and regulations in force under the said Application, viz:—

1. It shall be the duty of the crofters, having right to graze on the scattald of Norwick, to give notice to the committee before any animal is put on the said grazing or taken away therefrom.

2. The number of animals to be kept on the said grazing by each crofter having a right thereto shall be twenty-five sheep; and if, instead of sheep, queys or ponies are put upon the grazing, each quey shall be deemed equivalent to three sheep, and each pony to six sheep.

3. It shall be within the power of the committee to admit or exclude from the said grazing the animals of all parties not having a right to graze thereon.

4. The committee are hereby declared to have the power of regulating the annual rent payable by parties having no right to the said grazing, but whose stock the committee admit thereto; and the rent so received shall be used towards reducing the amount payable annually by the crofters having a right to the said grazing.

5. All parties having animals on the said grazing shall muster the same annually for numbering and inspection on the 10th day of August in each year, or, in the event of that day falling on a Sunday, the mustering to take place on the following day.

6. All crofters having right to the said grazing shall be supplied at their own expense with a printed copy of the rules by the committee.

7. The committee shall have power to warn off the said grazing any person found thereon at any time with a dog or dogs, unless they are being used for herding animals.

8. The Commissioners reserve to parties to apply further, if so advised, with a view to any addition to or amendment of the foregoing regulations.

(Signed)

“ DAVID BRAND.

“ W. HOSACK.

“ P. B. MACINTYRE.”

(d) TOWNSHIP OF TWATT, &c., SANDSTING.

Regulations for the townships of Twatt, Clousta, West Burrafirth, East Burrafirth, Tumlin, Houlland, &c., on the Estate of Quendale, the property of Mr A. J. Grierson, were submitted by the committee representing the crofters of the said townships, for the consideration of the Commissioners. These were disapproved, and the following ordained to be the rules and regulations enforceable by the said committee, viz. :—

1. The winter stock for each share in the said scattald shall not exceed forty-five native sheep.

2. Horses or ponies may be substituted for sheep in the proportion of one native horse or pony to seven native sheep.

3. The stock shall be regulated in November of each year, when every animal over one year old shall be included in the fair stock.

4. The committee shall have power to drive and count the stock of any shareholder, after giving due notice to the owner; but the owner is prohibited from taking any away from the scattald, or driving them aside, in such a manner as is calculated to mislead the committee during the interval between receiving the notice and the date fixed for driving.

5. After a shareholder has received notice as aforesaid from the committee, it shall be his duty to inform the committee of the mark or marks of all sheep belonging to him or to other members of his family, in whole or in part. It shall also be the duty of each shareholder to have his sheep marked with one and the same mark. These marks shall be registered in a book to be kept in the custody of the clerk or secretary to the committee.

6. No dogs shall be allowed on the scattald during the lambing season (April and May), and at other seasons dogs shall only be allowed on the scattald in charge of some competent person. No shareholder shall drive his stock in whole or in part, at any time, without informing his immediate neighbours of his intention so to do.

7. No geese shall be allowed on the scattald.

8. It shall be the duty of any shareholder, who has more than the fair stock, to remove the surplus from the neighbourhood of those who have less access to the scattald.

9. No person shall be entitled to have stock or halvers stock on the scattald, except shareholders in the same.

10. Any shareholder not wishing to keep a full fair stock is hereby allowed to arrange with any of the other shareholders to hold as many over a fair stock as he holds under, but the details of such arrangements shall in all cases be first submitted to and approved by the committee.

11. It shall be the duty of the committee to prevent any person interfering with any shareholder in the scattald in the fair exercise of his scattald rights."

12. It shall be the duty of the committee, on receiving these regulations as approved, to print the same and furnish copies thereof to shareholders in the said scattald at their own expense.

Reserve to parties to apply for any addition to, or amendment of, the foresaid regulations, if so advised.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

(e) TOWNSHIP OF STROMFIRTH, &c., WEISDALE.

An Application was lodged by the committee representing the crofters of the townships of Stromfirth, Kuckron, &c., the property of Mr A. J. Hay, for approval of certain proposed regulations submitted therein. The Commissioners disapproved of same, and in place thereof enacted and declared as the regulations observable and binding upon members of the said townships:—

1. The fair and reasonable number of sheep for each shareholder in the scattald pertaining to the townships of Stromfirth, Kuckron, &c., is forty, and it is hereby declared that no shareholder shall have more sheep on the said scattald at any one time than the said number of forty.

2. For every pony put on the scattald, there shall be six sheep taken from the said number of forty.

3. All lambs sent to grazing shall be counted as sheep when one year old, and all foals when one year old shall be reckoned as ponies.

4. No geese shall be allowed on the said scattald.

5. Parties are prohibited from driving sheep from hill dykes, fences, or prize spots on the hill.

6. The hill dykes shall be kept in repair from the 1st of April to the 31st of October inclusive in each year.

(Signed)

"DAVID BRAND.

"W. HOSACK.

"P. B. MACINTYRE."

APPENDIX U.

LIST OF PARISHES, the information hitherto obtained with regard to which has not been sufficient to enable the Commissioners to determine whether they are or are not crofting parishes within the meaning of the 34th section of the Act:—

ARGYLL.	INVERNESS.
Campbeltown	Cawdor
Dunoon and Kilmun	Croy
Gigha and Cara	
Inverchaolain	ROSS AND CROMARTY.
Killeen and Kilkenzie	
Kilmartin	Cromarty
Kilmodan	Rosemarkie
Southend	

Note.—With the exception of the above-named twelve parishes, the whole of the Counties named in the Act have been brought within its scope.

APPENDIX W.—SPECIAL ORDERS IN APPEALS.

COUNTY OF INVERNESS.

(a) APPLICATION FOR ENLARGEMENT GRANTED—CASE OF ALEXANDER MACDONALD AND OTHERS, GRIMINISH, BENBECULA.

Alexander Macdonald and 14 other crofters in the Township of Griminish, Benbecula, the property of Lady Gordon-Cathcart, applied for Enlargement of their Holdings by taking a portion of the Farm of Nunton, extending to 80 acres or thereby of arable and 150 acres or thereby of pasture land. The Application was delegated under the Delegation Act to Commissioner Sheriff Brand, who heard the same at Griminish aforesaid on two separate occasions, viz. : 24th October 1890 and 7th November 1891, and thereafter duly inspected the subject sought to be assigned. On 22nd December following, the said Commissioner issued an Order refusing the Application, in so far as made for the whole land applied for, but proposing to assign a portion thereof, extending to 15 acres arable and 31 acres pasture. Before finally dealing with the same, however, the Commissioner in the said Order called upon the applicants to state by Minute, to be lodged in process, whether they were prepared to erect and repair certain fencing therein specified, and delayed entry to the said lands until such fencing had been done to the satisfaction of a skilled person nominated by the said Commissioner. Against this Order the respondent appealed, and after various procedure the Commissioners held an inquiry at Griminish aforesaid under the said appeal, at which further evidence was allowed to be adduced, and, after having inspected the subject, issued the undernoted Order dismissing the appeal, adhering to the Order appealed against, and in respect the fencing specified in the Order appealed against had been erected and repaired, and found satisfactory, assigned the land as shewn in the schedule annexed to the following Order:—

“ EDINBURGH, 30th December 1893.

“The Commissioners having heard parties’ procurators under this appeal, and considered the additional evidence adduced, and also made due inspection of the whole land and buildings in question, Find that the grounds of appeal, and in particular the allegation of material damage, has not been proved, and is not well founded in point of fact, therefore Dismiss the Appeal: Adhere to the Order appealed against: Assign to the applicants (other than James Macdonald, No. 7 hereof, whose Application has been dismissed), in enlargement of their holdings, the arable land extending to fifteen acres or thereby, and the green pasture or meadow hay land extending to thirty-one acres or thereby, said arable and pasture land being within the space lettered A, B, C, D, E, F and G, and coloured buff or yellow on the Ordnance Survey Sheet or Plan produced and marked A/692, and as also delineated and marked off on the tracing produced and marked N/692: Find that the said arable land falls to be divided into fifteen parts or shares, as nearly as may be of equal value, though such shares may not be of equal extent: Ordain and direct the applicants to divide and apportion the said arable land fairly and equitably between themselves into fifteen parts or portions, and Ordain each applicant to take one share or portion: Find that the share or portion falling to each applicant under this Order forms part of his holding under Section 15 of the Act: Find and Declare that the green pasture or meadow hay land, extending to thirty-one acres or thereby as aforesaid, is to be held by the applicants in common: and Find and Declare that any crop of meadow hay derivable therefrom is to be fairly and equitably divided, from season to season, by the applicants among themselves: also Find and Declare that the said pasture land forms part of the applicants’ holdings as common grazing, under the foresaid section of the Act: Find that the applicants, by the foresaid Minute marked F/692, in terms of the Order of 22nd December 1891, undertook to erect or repair the fencing therein directed to be erected or repaired, and that to the satisfaction of a skilled person to be nominated by the Commissioners (or otherwise to the satisfaction of one of the Commissioners): Direct and Ordain the applicants forthwith to fulfil their undertaking, given in the said Minute, and put up or repair the said fences in accordance with the terms of the foresaid Order: Find that the annual value of the land assigned, arable and green pasture or meadow hay land, is the sum of £14 sterling, as mentioned in the foresaid Order, whereof the sum of 18s. 8d., in name of rent, falls to be paid by each of the said fifteen applicants and to be added to the Fair Rent already fixed for each—all as specified in the Schedule hereto annexed, which sets forth (1) the name of the applicant; (2) the rent of the land assigned due by each; (3) the rent of each holding; and (4) the rent of each holding as enlarged: Ordain the applicants and respondents, after the erection and completion or proper repair of the fences before-mentioned, to maintain and uphold the same at joint expense: Allow entry and possession to the applicants of the whole lands assigned as from Martinmas last, and that notwithstanding the date of this Order; Reserve meantime all questions as to additional sea-ware being allowed to the applicants in proportion to the lands arable and grazing before assigned: Also reserve to parties to apply further in regard to the carrying out hereof: Find no expenses due to or by either party.

(Signed)

“ DAVID BRAND.

“ W. HOSACK.

“ P. B. MACINTYRE.”

The following is the Schedule referred to:—

APP. W.—COUNTY OF INVERNESS.

No.	Estate.	Date of Receipt by Commission.	Date of Final Order.	Crofter.	Township or District.	Subject from which Land taken and how occupied.	No. on Plan.	Extent of Holding.			Share in Common Pasture.	Rent of Land assigned due by each.	Fair Rent of Present Holding.	Rent of each Holding as enlarged.	Observations.
								Arable.	Ac. Ro. Po.	Ac. Ro. Po.	Outrun.	Common Pasture.			
1	Benbecula (Lady Gordon-Cathcart, Proprietrix)	1888 Apr. 18	1893 Dec. 30	Widow Catherine Macdonald and Allan Macdonald	Griminish	Farm of Nanton, in occupancy of Proprietrix		Ac. Ro. Po. 15 — —	— — —	Ac. Ro. Po. — — —	— — —	Acres. 31	£ s. d. 0 18 8	£ s. d. 2 18 8	
2	"	"	"	Donald Macpherson	"	"	"	...	...	...	...	...	0 18 8	4 0 0	4 18 8
3	"	"	"	Malcolm Macdonald	"	"	"	...	...	...	...	...	0 18 8	10 8 0	11 6 8
4	"	"	"	Marion Macpherson	"	"	"	...	...	...	...	...	0 18 8	4 12 0	5 10 8
5	"	"	"	John Wilson and Mrs Margaret Wilson	"	"	"	...	...	...	...	...	0 18 8	2 10 0	3 8 8
6	"	"	"	Malcolm Macmillan	"	"	"	...	...	...	...	...	0 18 8	3 3 0	4 1 8
7	"	"	"	Angus Macdonald (Turner)	"	"	"	...	...	...	...	...	0 18 8	11 15 0	12 13 8
8	"	"	"	John Gordon Macintyre	"	"	"	...	...	...	...	...	0 18 8	2 6 0	3 4 8
9	"	"	"	Donald Macdonald	"	"	"	...	...	...	...	...	0 18 8	3 16 0	4 14 8
10	"	"	"	Angus Macdonald (James)	"	"	"	...	...	...	...	...	0 18 8	1 15 0	2 13 8
11	"	"	"	Anne Macellan	"	"	"	...	...	...	...	...	0 18 8	2 0 0	2 18 8
12	"	"	"	Kate Wilson	"	"	"	...	...	...	...	...	0 18 8	2 10 0	3 8 8
13	"	"	"	Angus Mackinnon	"	"	"	...	...	...	...	...	0 18 8	5 7 0	6 5 8
14	"	"	"	Margaret Wilson (Archibald)	"	"	"	...	...	...	...	...	0 18 8	2 15 0	3 13 8
15	"	"	"	John Macmillan	"	"	"	...	...	...	...	...	0 18 8	3 0 0	3 18 8

Equal shares.

(b) APPLICATION FOR ENLARGEMENT REFUSED—CASE OF DONALD AND ALEXANDER MACEACHAN AND OTHERS, AIRD, BENBECULA.

This was an Application by Donald and Alexander Maceachan and 14 others, crofters, in the Township of Aird, Benbecula, the property of Lady Gordon-Cathcart. Sheriff Brand, to whom the Application had been delegated as Commissioner under the Delegation of Powers Act, 1888, after having heard parties' procurators and considered the evidence adduced at Hearings held at Griminish, Benbecula, on 25th October 1890 and 7th November 1891, issued an Order, dated 22nd December 1891,* in which he held the Application competent, and proposed to assign the land applied for, viz., the portion of the Farm of Nunton locally known as the Moor of Nunton, first, however, calling upon the applicants to lodge a Minute within two months from the date of the said Order, in which they were to undertake the erection and maintenance of certain dyking therein specified, and postponing assignment of the said land until this had been done to the satisfaction of a skilled person appointed by the said Commissioner. Against this Order the proprietrix, Lady Gordon-Cathcart, appealed, and after various preliminary procedure, an inquiry under the said appeal was held at Griminish aforesaid, at which additional evidence was allowed to be led by the respondent. Thereafter a majority of the Commissioners recalled the Order appealed against, and dismissed the Application in terms of the subjoined Order and Note. Appended thereto will also be found a Minute of Dissent by Sheriff Brand which sets forth his reasons therefor:—

“EDINBURGH, 15th December 1893.

“The Commissioners having resumed consideration of this appeal, and having considered the additional evidence adduced therein by the said Lady Gordon-Cathcart, heard parties' procurators and made due inspection of the subjects, under reference to the annexed note (Sheriff Brand dissenting), Sustain the said appeal: Recall the Order appealed against (except in so far as it refers to the portion of land coloured pink on the Plan marked A/1114 already in the possession of the applicants): Dismiss the Application: Find no expenses due to or by either party.

(Signed)

“W. HOSACK.

“P. B. MACINTYRE.”

“Note.—The Commissioners find from an examination of the proceedings that objection was taken to this Application being granted, *inter alia*, on the ground of material damage to the letting value of the remainder of the Farm of Nunton, from which the land proposed to be assigned was to be taken, and this objection was again strongly urged and additional evidence led in support of it at the hearing under appeal. On a careful consideration of the whole matter, and after due inspection and examination of the said farm, the Commissioners are of opinion (Sheriff Brand dissenting as aforesaid) that the said objection is well founded, and ought to receive effect.

The Farm of Nunton extends to 3090 acres or thereby, consisting of 208 acres arable, 82 acres old arable, 800 acres pasture, with 2000 acres of detached hill pasture, which, worked as a whole, forms a stock-producing and self-sustaining farm. On the home portion of the farm a stock of Highland cattle is bred and reared, and cross lambs are raised from cast ewes. On the said detached hill pasture of 2000 acres lambs are bred, and thereafter wintered on the home farm, while the cast from the hill stock provides the low farm with ewes for crossing purposes.

The land applied for, extending to 99 acres, and coloured dark green on the said Plan marked A/1114, is green pasture, and lies into or near a large extent of black heathy land, which together form a useful and healthy grazing for stock; but to separate the former from the latter would render the heathy land practically valueless, and make it impossible to continue the raising of cross lambs.

Moreover, adjoining these grazings is a fresh-water loch where the cattle of the farm have to be driven for the purpose of being watered, and for a portion of each day they are grazed on the land applied for. This change of grazing the Commissioners think is necessary to maintain the stock in a healthy condition, and to grant the Application would deprive them of it.

In the whole circumstances, the Commissioners have no hesitation in concluding that the Application cannot be granted without interfering with the profitable and advantageous working of the said Farm of Nunton to such an extent as to cause material damage to the letting value of the remainder within the meaning of the Act, and it has accordingly been refused.”

(Initialed)

“W. H.

“P. B. M.”

MINUTE OF DISSENT.

“I am of opinion that the appeal taken in this case is not well founded, and ought to have been dismissed. The Application is made for a portion of pasture land locally known as the ‘Moor of Nunton,’ and extending to less than 100 acres in all. The total acreage of the farm is 3090 acres, and the conclusion arrived at by the majority of the Commissioners is, that the assignment of the portion in question would have the effect of causing material damage to the letting value of the remainder of the farm, and in particular of certain black heathy land contiguous to the said pasture. I cannot concur in this view. When the application first came up for hearing, skilled evidence was adduced on behalf of the respondent (the present appellant) to establish the plea of ‘material damage.’ That evidence in my judgment failed to prove such damage, as it only went to show that the taking

of the land in question would have an appreciable, but not a material, effect on the letting value of the remainder of the farm. A very careful inspection was made of the ground, and an opinion formed, based partly on the evidence and partly on the said inspection, that the application should be granted.

In the course of the hearing under the appeal, the respondent, feeling it unsafe to rely on the evidence previously led, moved for leave to bring forward further evidence of material damage. This motion was granted, and such evidence was accordingly adduced. But the new evidence left the question of material damage where it was when the appeal was taken.

The main ground on which the majority of the Commissioners proceed is, that the separation of the land in question from a large extent of black heathy land would render the latter practically valueless by preventing a due alternation of grazing. But it appears to me that this ground of judgment loses much of its force from the consideration that it has not been pleaded by the respondent. Under the note of objections to the application when lodged, the plea of material damage is properly stated in general terms. But under the appeal the respondent was called on by the Order of 30th April 1892 to lodge a statement setting forth the particular grounds on which the same had been lodged. These accordingly purport to be specified in the Minute lodged on 11th June following, but that Minute makes no reference to the special circumstances now relied upon by the majority of the Commissioners. Taking it that some inconvenience would arise in the direction indicated, this inconvenience seems to me to be adequately dealt with in the Order under appeal, which reserves a right of way or passage for the occupants of the farm between the steading and the grazing on the east side of the Island; if not so met, then it could be met by a partial readjustment of the grazing system on which the farm is carried on.

It may be added that the assignment in question would not cause any difficulty in the supply of water for stock, as the proposed fence, marked L, M, N on the Plan produced and marked A/1114, runs through Loch-an-Toim and Loch-an-Leacach, and leaves an ample water supply on each side.

In dealing with an Enlargement application of this kind, I cannot leave entirely out of view the circumstances under which the farm was formed as it now exists, and on that point a considerable body of reliable evidence was submitted at the first hearing, to the effect that Nunton Farm was extended from time to time by the absorption of lands in the occupation of crofters.

Upon the whole matter, I have arrived at the conclusion that there are no adequate or sufficient grounds for recalling the Order under appeal."

(Signed)

"DAVID BRAND."

EDINBURGH : PRINTED BY NEILL AND COMPANY
FOR HER MAJESTY'S STATIONERY OFFICE.

FIFTH REPORT

OF

HER MAJESTY'S COMMISSIONERS APPOINTED
TO CARRY OUT A SCHEME

OF

COLONISATION IN THE DOMINION OF CANADA

OF

CROFTERS AND COTTARS FROM THE WESTERN
HIGHLANDS AND ISLANDS OF SCOTLAND;

WITH

APPENDICES.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

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1894.

FIFTH REPORT

OF THE

COLONISATION BOARD.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY :

WE, the undersigned Commissioners appointed under Your Majesty's Sign Manual for the purpose of carrying out a scheme of colonisation in the Dominion of Canada of crofters and cottars from the Western Highlands, and the islands of Scotland, and from the congested districts of Ireland, desire humbly to submit to Your Majesty the following Report :—

Reports have been received from the agent of the Board in Canada relating to the settlements at Killarney, in Manitoba, and at Saltcoats, in the North-West Territories, for the year 1893. The former was established in the summer of 1888, and the latter in the spring of 1889.

Statements are appended containing extracts from the agent's reports (Appendix A.) and summaries of the statistics (Appendix B.), showing the position of the settlements in 1893, the acreage under various crops, live stock on the farms, and other information.

The area under cultivation in the Killarney Settlement becomes larger year by year, and the live stock belonging to the crofters continues to show a satisfactory increase in numbers.

There were 3,461 acres under cultivation in 1893, as compared with 1,420 in 1890, and adding to the former figures the 1,011 acres which have been prepared for crop this year, the arable land in the settlement is 4,472 acres. Dividing this among the 30 families it gives an average of nearly 150 acres per family.

Of the 4,472 acres before referred to, only 3,939½ acres are held by crofters under obligations to the Board. Of that area 2,623 acres were on the homesteads belonging to the heads of families—an average of 87½ acres each; and 1,316 acres on those of the younger members of families, (25) who have taken up farms—an average of 53 acres each.

The crops in the Killarney District were not so abundant as in other parts of the country, the season having been in some respects an unfavourable one. Computed, however, at a low average price, the value of the wheat raised in the settlement was \$11,557.60; of oats, \$1,827.00, and potatoes \$1,404.65, a total of \$14,789.25. These figures do not take into account the wages that must have been earned by the crofters in many cases, and other sources of revenue open to them, or the value of the increase in the live stock. The large number of horses, and of other stock purchased by the crofters since 1890, is also an indication of material progress.

The position of the Saltcoats crofters is not so satisfactory. Owing partly to a series of unsatisfactory seasons, the families remaining in the settlement have not increased the cultivation of their farms to the extent that might have been anticipated. The spring of last year was rather late, and, consequently, some of the crofters who asked to be assisted with seed grain, and potatoes, did not sow all that was supplied to them, but disposed of a portion of it in other ways.

According to the agent's reports, however, the crops in the neighbourhood were generally good, and those settlers whose land was sown in the early days of May had a return of 20 bushels to the acre of wheat, and a fair yield of other crops. Those of the crofters, also, who properly cultivated their farms, and sowed their seed, had a return of at least 18 bushels of wheat to the acre; and there is no reason whatever why all of them should not have been equally successful.

The live stock shows a fair increase, and some of the crofters have been able to purchase not only horses, but additional oxen and cows. They would have been in

a much better position than they are now in that respect, but for the number of stock lost in the settlement in the winter of 1892-93, as mentioned in our previous report. This was largely owing to the abnormal winter, and to insufficient fodder having been provided for the sustenance of the animals.

It is gratifying to notice that the agent, in his report, considers the crofters remaining at Saltcoats to be on the fair road to success, and that the experience they have passed through will have a good effect upon their future.

It may be mentioned that notwithstanding the slow progress that has been shown at Saltcoats, the crofters at that place have been self-supporting for some years past. The total indebtedness of the 23 settlers to the six storekeepers in Saltcoats amounts to but \$112.46, and they have only incurred liabilities to the extent of \$673 in regard to agricultural machinery. In both these respects they contrast very favourably with the crofters at Killarney, where greater material progress has been made.

We regret to report that the Killarney crofters have not paid the first instalment of the money advanced to them, which was due in November 1892. They have unwisely incurred other liabilities in addition to their indebtedness to the Board. They also allowed their taxes to the local municipalities to get into arrear, but have since paid off a small amount. Some years ago, seed-grain was supplied to them by the municipality, the value of which has not been repaid. To machine companies, for farm implements, they owe \$7,231.66, a large part of which need not have been incurred; and to local storekeepers they are indebted to the extent of \$14,869.49. Their debt to the Board is about \$23,890, which, added to their other obligations, about \$25,000.00 in all, makes up a total of nearly \$49,000.

As mentioned already, the value of the crops alone last year, even at the extremely low prices that have prevailed, amounted to nearly \$14,790, which forming, as it does, only a part of their earnings, cannot be considered an unsatisfactory return for the capital invested.

In consequence of the nonpayment of the municipal taxes, the farms of some of the crofters have been nominally sold. They can, however, be redeemed within two years, at a premium of 10 per cent. per annum; and unless the crofters pay the taxes, which they are being strongly urged to do, it will be necessary for the Board to become responsible for the amounts, in order that its security may not be invalidated.

Some of the crofters have, the agent reports, paid a further portion of the overdue taxes, but the total taxes and seed-grain accounts outstanding by latest advices was \$2,913.76. They have all been informed that unless they meet these obligations at once, they cannot expect to receive any indulgence from the Board in connexion with the postponement of their overdue instalments.

If the taxes are not paid, and the Board have to become responsible for them; and if any modified arrangements that may be made with regard to the repayment of the instalments are not carried out, the course that it will be necessary to take for the protection of the interests of the Board will require consideration.

In dealing with the position of the settlements, regard must be had to the changes that have taken place in the condition of agriculture all over the world. The local prices of wheat and of other farm products are little more than half what they were when the settlements were formed, and the same remark applies to live stock. If the former prices had been maintained, both the crofters at Killarney and at Saltcoats would have been in a very different position to that which they occupy to-day.

When it is remembered, that even at very low prices, the crops at Killarney were valued last year at \$14,789, and that the Board's debt against the settlement is only about \$23,890, it is apparent, that had prices been maintained at anything like a reasonable rate, the produce of the crops alone, apart from wages or the increase of stock, would have, in one year, been sufficient to more than cover the debt upon the settlement. The agent, in a recent report, stated that the only complaint made to him by the crofters on a recent visit was that the low prices offered for their produce did not enable them to meet their obligations to the Board.

The first instalment of the debt of the Saltcoats settlement became due in the autumn of last year. It has not been paid, and, in the circumstances already alluded to, it is probable that some indulgence will have to be extended to the settlers, a matter which is having the consideration of the Board.

In our previous report, reference was made to certain complaints from the Saltcoats crofters formulated in a petition addressed to the Secretary for Scotland. Sir Charles Tupper, the High Commissioner for Canada, a member of the Board, visited the Dominion last year, and was good enough to investigate the matter on the spot. A copy of his report is appended (Appendix C.) It will be seen that Sir Charles

Tupper does not regard the complaints as well-founded. They related more or less to difficulties inseparably connected with the migration of a number of families from one country to another. Most of the complaints were investigated by the Select Committee of the House of Commons on Colonisation, which made its report to Parliament in 1891. Sir Charles Tupper has formed, on the whole, a favourable opinion of the scheme, so far as it has been carried out, and looks forward with confidence to the future success of the settlement.

No colonisation has yet been undertaken by the Board from the congested districts of Ireland.

(Signed) GEORGE OTTO TREVELYAN.
 HORACE PLUNKETT.
 CHARLES TUPPER.
 JAMES KING.
 COLIN SCOTT-MONCRIEFF.
 JOHN ROSS OF BLADENSBURG.
 JAMES BELL.
 THOMAS SKINNER.

J. G. COLMER, Secretary.
 June 1894.

APPENDIX A.

EXTRACTS FROM AGENTS' REPORTS.

EXTRACT FROM THE REPORT OF THE AGENT ON THE
KILLARNEY SETTLEMENT.

"The cause of the low yield per acre for season of 1893 is accounted for by hot winds, which visited the Colony during the month of June, and to high winds during harvest time, which thrashed the grain out.

"The grain harvested by the settlers was, of the best quality, and rated No. 1 hard.

"The average price paid to the crofters for their wheat was \$0.45, and oats \$0.22 per bushel.

"The only complaint made to me by the crofters, was, that the low prices offered for their grain would not permit them to meet their obligations to the Board.

"All crofters assured me they would pay their municipal indebtedness out of the proceeds of this year's crop."

EXTRACT FROM THE REPORT OF THE AGENT ON THE
SALTCOATS SETTLEMENT.

"It will be further observed from the schedules enclosed, that notwithstanding the heavy loss of stock, some of the crofters sustained during the winter of 1892 and 1893 by not putting up sufficient hay, they have still a fair herd, which, with careful husbanding, will, in time, be the means of enabling these settlers to meet their obligations to the Board.

"From the data enclosed, it will be apparent to the Board that it is not at present the crofters' intention to go largely into grain-growing. If this statement is accepted, it would be necessary for the Board to base any calculations with regard to the time the crofters will be expected to repay their loans on the natural increase of the stock now in their possession, and not so much on the proceeds to be derived from the sale of grain grown.

"On the agent's recent visit to Saltcoats he ascertained from the six shopkeepers doing business there, that the total indebtedness of the crofters to them, amounted to \$112.40, and that certain of the crofters could obtain small credits at any time they wished. The total indebtedness for farm machinery purchased was ascertained to be \$673.00.

"On the whole, the agent considers the crofters located in the Colony of 'Lothian' to be on the fair road to success. The experience gained by the loss of so much stock and crop, through their own want of care can have but a good effect."

The only complaint made to the agent on his recent visit to the Colony was that "Some enemies of us crofters are telling lies to the papers." When asked to what lies they referred, they said, 'They say we are starving and being frozen to death. We are not in want; we have cattle, and lots to bake,'—a statement that can be easily verified by any person visiting their houses, when bags of flour and oatmeal can be seen.

APPENDIX B.

KILLARNEY CROFTERS, 1890-93.

Number of Families.	Wheat.		Oats.		Potatoes.		Total Acres under cultivation.	Breaking, Back-setting, and Summer Fallow.	Grand Total.	Tons of Hay cut.	Live Stock on Farm.											Remarks.			
	Acres.	Yield.	Acres.	Yield.	Acres.	Yield.					Horses.	Oxen, I.C.B.	Oxen.	Cows, I.C.B.	Cows.	Heifers.	Steers.	Bulls.	(Hickens.	Ducks.	Geese.		Turkeys.	Pigs.	Sheep.
70 Homesteaders :																									
For 1893 -	2,875	33,607	559 ¹	9,580	27	4,152	3,461 ¹ ₂	1,011	4,472 ¹ ₂	1,130	89	31	66	30	45	39	33	5	1,408	—	2	—	2	157	7
For 1890 -	1,336 ³	20,324	74	2,168	10	1,761	1,420 ³ ₈	859	2,274 ³ ₈	518	1	57	24	37	25	50	37	5	813	3	—	—	—	88	5
Increase	1,538 ⁴	13,283	485 ¹ ₂	7,412	17	2,391	2,040 ³ ₈	152	2,192 ³ ₄	612	88	—	42	—	20	—	—	—	595	—	2	2	119	2	—
Decrease	—	—	—	—	—	—	—	—	—	—	—	26	—	7	—	11	4	—	—	—	3	—	—	—	—

APPENDIX B.

SALTCOATS CROFTERS, 1893.

Homesteaders for--	Wheat.		Oats.		Potatoes.		Total Acres under cultivation.	Breaking, Back-setting, and Summer Fallow.	Grand Total.	Tons of Hay cut.	Live Stock on Farm.												Remarks.		
	Acres.	Yield.	Acres.	Yield.	Acres.	Yield.					Horses.	Oxen, I.C.B.	Oxen.	Cows, I.C.B.	Cows.	Heifers.	Steers.	Bulls.	Chickens.	Ducks.	Geese.	Turkeys.		Pigs.	Sheep.
1893 - 23	54	728	50	794	18½	1,035	122½	174	296½	842	7	29	6	37	49	75	56	10	483	—	2	58	12	6	
1890 = 23	47½	778	73½	1,700	8½	1,480	129	59	188	290	—	28	—	19	6	15	14	1	176	—	—	—	—	—	
Increase	6½	—	—	—	10	—	—	115	108½	552	7	1	6	18	43	60	42	9	307	—	2	58	12	6	
Decrease	—	50	23½	906	—	445	6½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

APPENDIX C.

April 2nd, 1894.

DEAR SIR GEORGE TREVELYAN,

As promised in August last, I have taken the opportunity of a visit to Canada on private business, to inspect the settlement of crofters at Saltcoats, for the purpose of ascertaining their present condition, and of making some inquiry into the complaints formulated in the petitions forwarded to you.

It will be within your knowledge that most of the complaints have already been investigated on several occasions, and that they relate to circumstances which occurred in 1889, connected with the conveyance of the crofters from the port of landing in Canada, to their destination, and to their settlement. The matter was fully gone into by the Colonisation Committee of the House of Commons which sat in 1889-90-91. The Secretary of the Board was examined, both before and after having visited the settlement, as well as other gentlemen who have personal knowledge of the facts and were able to speak with authority. I think I may say that the impression left on the minds of the members of the Committee was that there was little or no foundation for the complaints, and this is my own opinion as the result of my investigation.

The Saltcoats district is well adapted for mixed farming. Where the land had been properly prepared for wheat, oats, and barley, an abundant crop was harvested during the year, and I found that the surrounding farmers spoke in very favourable terms of the district and the fertility of the soil. For stock-raising it cannot be surpassed. The country is fairly well wooded, affording good shelter for the cattle; and hay of the finest quality can be obtained in great abundance at practically only the cost of labour and haulage.

The crofters at Saltcoats, partly from their own fault, and partly from an imperfect knowledge of farming, have been unfortunate in their crops in the last few years, and it is a matter for regret that they did not have much crop in 1893. They were somewhat discouraged by their want of success in previous years, and owing to the spring being rather late, did not believe a good season would follow. Consequently many of them did not sow all the grain and potatoes supplied to them for seeding purposes, but used some of it for food. The harvest turned out after all to be a fair average one, and wheat sown in the neighbourhood from the 1st to the 10th of May, averaged 20 bushels to the acre, of excellent quality. Those of the crofters who put in wheat, obtained an average return of 18 bushels to the acre, and those who did not sow any regretted it afterwards. Another reason given for little or no seed having been put in the ground in many instances, was that the oxen were very weak at seeding-time—the result of the late severe winter, and of insufficient food having been put up for them by the crofters—and were not capable of doing much work.

In their spare time the crofters have no difficulty in obtaining work. A considerable number can always obtain employment on the local railways at \$1.25 a day; but they seem to prefer to work out as farm labourers, for which they often secure from \$25 to \$40 per month and board during harvest. The young women can readily obtain work at from \$8 to \$10 per month; and I was informed that several of them had made desirable marriages. It is not only in summer that work is plentiful, but in winter also it can be secured by those who look for it. Several crofters told me that they made from \$20 to \$60 during last winter cutting and drawing wood to Saltcoats, for which they could always obtain \$3.50 (14s.) a load. There is always good local demand for butter, poultry, and eggs, and for roots and vegetables.

Apart, therefore, from the proceeds of their farms, the crofters have had many other opportunities of earning money, not only to help them in supplying food for their families, but in adding to their stock, if they wished to do so.

There is an abundance of game in the neighbourhood, particularly of prairie chickens, a variety of grouse. They can be killed from the 1st September to the

1st February, but even during the close season settlers are permitted to kill if necessary for food. Rabbits are plentiful, and the same remark applies to ducks and geese. Deer are also occasionally seen in the Colony, and five were killed in one day during last season.

In my inspection of the Colony, I went into the houses of the crofters, which, with scarcely an exception, presented a warm and comfortable appearance, nearly all of them having been greatly improved since they were built. I was informed by the wives and daughters of the crofters that they had no difficulty in keeping the houses warm. The vigorous appearance of the children I saw there much impressed me, and their condition is evidence not only of the healthiness of the climate, but of their not having suffered hardships or privations.

There are two school districts in Saltcoats, in one of which the teacher is Mr. Angus McLeod, of whom I can speak in the highest terms. His salary has been about \$400 a year, two-thirds of which was paid by the North-west Territories and one-third by the Manitoba Presbytery, but recently the latter part of his remuneration has been withdrawn. In the other district Mr. Colin McLeay is the teacher. His salary was \$700 a year, paid in the same proportions by the North-west Territories and Manitoba Presbytery, although the latter grant has also recently been discontinued.

I was sorry to find that so many crofters have abandoned their homesteads. It will be remembered that 49 families were assisted to emigrate, and that, in addition to the homesteads taken up by the heads of the families, 23 homesteads were also secured by younger members of the families, and in many cases they were assisted out of funds at the disposal of the Board. Altogether there have been five deaths in the Colony, and 43 persons have left their homesteads, making a total of 48 vacant homesteads. No satisfactory reason has been assigned to account for these people leaving their homesteads. Many of them however were fishermen, unaccustomed to farming, and evidently did not take to the work. They preferred employment as daily or weekly labourers, which enabled them to obtain their wages every few days, to working on their own farms. Not, however, that the two things were incompatible. They might have done their own ploughing and sowing, leaving their families to attend to the crops and cattle in many cases, and have procured outside work with which to supplement their incomes, and to help them to extend their own operations. Although they have given up farming, many are doing well in different parts of the country. Some are fishing on the Lakes Winnipeg, Manitoba, and Superior, while others are at work at the lumber mills in different parts of the country.

It is not believed that any considerable loss will result from the abandonments that have taken place. The abandoned land will be patented to the Board, and the cattle and chattels which were left have been sold, and the proceeds credited to the accounts of the crofters. It may be a little time before the homesteads can be disposed of, but it is believed that they will eventually realise nearly, if not quite, the amount of debt which on an average they represent.

While it is a matter for regret that many of the crofters have left their homesteads, I do not think that the scheme can in any way be described as a failure. Although the people have gone away, they are still doing well in various places, and in only two or three individual cases have they returned to Scotland. The fact that they have been able to get away at all, whether to other parts of Canada or across the Atlantic, is in itself an argument in favour of the measure of success they achieved, because the expense of moving a family even a few hundred miles is not inconsiderable to men in their position, and they must have been making money as the result of their labour, either at Saltcoats or elsewhere. Then again, if they are doing well anywhere in Canada, they cannot be described as failures, excepting so far as they have not remained upon the land; and in any case their preliminary

experience at Saltcoats was exceptionally valuable to them, as without it they could not have so readily assimilated themselves to the ways of the country.

In view of the circumstances I have mentioned, and of the losses experienced by the crofters in their stock in the winter of 1892-93, arising chiefly, as already stated, from insufficient fodder having been put up for their sustenance, I recommend that the Saltcoats crofters should not be pressed to meet the instalments of the loans advanced to them for a year or two. Even were they in a position to pay, I am strongly of the opinion that it would be to their interest to spend any available funds they might have in improving their farms, and in adding to their stock. They would then be in a much better position a year or two hence to liquidate their obligations, and it would distinctly encourage them to persevere.

I was not able, during my visit to Manitoba, to visit the Killarney settlement, but Professor Wallace, who went there and examined the settlement, states that he witnessed the greatest prosperity throughout the district. The amount of land under cultivation is large, the crops fairly satisfactory, and everything indicates a thriving and prosperous condition of the people.

The settlers in that district have allowed themselves to get behind with their municipal taxes, and have incurred considerable debts with implement makers and provision merchants.

In consequence of the nonpayment of their municipal taxes, the holdings of a number of the Killarney crofters have been nominally sold by the municipalities. They can, however, be redeemed within one year, which expires in May next, at a premium of 10 per cent., or within two years at a payment of 20 per cent. I trust that the crofters will pay their taxes, and in that case the security of the Board will not be invalidated. In the event, however, of any of the crofters not paying their taxes, the Board will have to consider what action should then be taken. Two courses will be open, should the Board decide to meet the liability to preserve their security (1) to add the amount to the debt against the homesteads, and get payment as soon as possible, or (2) to foreclose and dispossess the crofters of their holdings.

A satisfactory explanation has been afforded as to why the crofters allowed the proceedings to be taken against them. As a matter of fact, money can only be borrowed locally at a high rate of interest, and it is, therefore, cheaper for the settlers to allow their homesteads to be nominally sold than to borrow money for the payment of taxes in times of pressure, especially as any sale can be redeemed within one year at a premium of 10 per cent. and in two years at 20 per cent. I am told that this course is adopted when the necessity arises by other settlers as well as crofters.

For the reasons I advanced in the case of Saltcoats settlers, I recommend that those at Killarney should not be pressed to meet the instalments of the loans advanced to them for a year or two. Statements recently received from the agent of the Board show that the total debts of the settlement amount to about \$48,839, of which about \$23,900 represent obligations to the Board. The income of the settlement in 1893, calculated on a low basis of value, from the crops of wheat, oats and potatoes alone was however nearly \$15,000. This is a very satisfactory showing, as it does not include the increase in the stock, the wages the crofters may have earned, or any other sources of income.

Mr. Borradaile, in writing at the end of November last, after a visit he had paid to the Colony, stated "the only complaint to me by the crofters was that the low prices offered for their grain would not permit them to meet their obligations to the Board. All the crofters assured me they would pay their municipal indebtedness out of the proceeds of this year's

"crop." They certainly ought to have no difficulty in doing what they promised, and also in paying a portion of their other debts; and to permit of this being done I recommend that the repayment of the instalments to the Board should be deferred for a year or two. Besides, as in the case of the Saltcoats settlers, I am of the opinion that they could with advantage spend any spare funds in improving their farms and in adding to their stock.

It must be remembered in considering the position of both the Killarney and Saltcoats settlements, that the prices of grain of all kinds and of other farm produce have in the last two years much depreciated—in the case of grain to the extent of nearly one-half. Had prices been maintained, the condition of the crofters to-day would have been very much better.

After fully considering the matter from every point of view, I have come to the conclusion, as already mentioned, that the colonisation scheme can in no sense be described as a failure. The families remaining at Saltcoats, notwithstanding the difficulties they have encountered, partly arising from their inexperience and previous training, and partly from one or two exceptional seasons, are in a fairly comfortable position. They all have a fair amount of stock (and would have had a much larger number had they put up enough hay in 1892) which is sure to rapidly increase if proper care is taken; and they have been very nearly self-supporting during the four years or more they have been in Canada.

Although a large number of families have left the settlement, no satisfactory explanation of their action can be given. There is no reason why they should not have succeeded as well as those remaining in the settlement or even as well as those at Killarney, if they had shown perseverance, energy, and a capacity for hard work—the elements necessary to success anywhere. But even these people cannot be described as failures. They must have earned considerable money, as previously stated, to have enabled them to take their families away from Saltcoats and settle elsewhere. This in itself is the strongest evidence that can be given in favour of the country generally, and of the district in which they were settled. It also serves to show what they might have done had they remained at Saltcoats, and devoted their attention to carrying out the agreements into which they entered, and upon the faith of which they were assisted to emigrate. As already explained, the land abandoned by them will be transferred to the Board, and when sold will nearly, if not quite, represent the money expended upon the crofters in question.

As regards Killarney, that part of the experiment, especially from the crofters' point of view, must be regarded as successful. All the families are doing well. They have a large area of land under crop, and are likely to become independent and successful farmers at no distant day. Like agriculturists everywhere they have suffered from the low prices during the last few years, both for stock and grain, circumstances which could not be foreseen when they first went out. One of the young men has already repaid the amount advanced to him, and I am looking forward to the other families commencing their repayments, and rapidly disposing of their indebtedness to the Board in the near future.

There is no doubt whatever that the condition of the crofters in Canada compares favourably with their position in the Hebrides. I believe that the money advanced to them by the Board will result in prosperity to themselves and to their families, and I am sanguine that it will be repaid.

I remain,

Yours faithfully,

(Signed) CHARLES TUPPER.

The Right Hon. Sir George O. Trevelyan, Bart.

&c.

&c.

&c.

MISCELLANEOUS. No. 4 (1894).

COPIES OF WARRANTS

ISSUED BY THE

SECRETARY OF STATE ON THE 14TH AUGUST, 1894,

AUTHORIZING THE

DETENTION OF THE SHIP "ISLAM"
AT GLASGOW.

*Presented to both Houses of Parliament by Command of Her Majesty (pursuant to
Act 33 & 34 Vict., c. 90). August 1894.*

LONDON:

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HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

[C.—7501.] Price $\frac{1}{2}d$.

COPIES of WARRANTS for the detention of the ship
“Islam” at Glasgow, issued by the Secretary of State
for Foreign Affairs on the 14th August, 1894.

(A.)

The Right Honourable the Earl of Kimberley, K.G., Her Majesty's Principal Secretary of State for Foreign Affairs, to Mr. George Henry Wildish, the Acting Collector of Her Majesty's Customs at and for the Port of Glasgow, and to all and every other Officers and Officer for the time being of Her Majesty's Customs at and for the said Port, being the local authority or authorities, as defined by “The Foreign Enlistment Act, 1870,” for the purposes thereof.

WHEREAS it has been made to appear to my satisfaction, and I do hereby state that there is reasonable and probable cause for believing that a certain vessel, called the “Islam,” now being within Her Majesty's dominions, to wit, within the limits of the said Port of Glasgow, has been or is being built, commissioned, or equipped contrary to the said Act, and is about to be taken beyond the limits of such dominions :

Now I, the said Secretary of State, do hereby authorize and require you, the said local authority, and all and every other officers and officer for the time being of Her Majesty's Customs at the said Port, to seize and search said vessel, and detain her until she has been either condemned or released by process of law, or in the manner in this Act in that behalf mentioned and provided.

Given under my hand this fourteenth day of August, one thousand eight hundred and ninety-four.

(Signed) KIMBERLEY.

(B.)

The Right Honourable the Earl of Kimberley, K.G., Her Majesty's Principal Secretary of State for Foreign Affairs, to Mr. George Henry Wildish, the Acting Collector of Her Majesty's Customs at and for the Port of Glasgow, and to all and every other Officers and Officer for the time being of Her Majesty's Customs at and for the said Port, being the local authority or authorities, as defined by “The Foreign Enlistment Act, 1870,” for the purposes thereof.

WHEREAS it has been made to appear to my satisfaction, and I do hereby state that there is reasonable and probable cause for believing that a certain vessel, called the “Islam,” now being within Her Majesty's dominions, to wit, within the limits of the said Port of Glasgow, is about to be dispatched contrary to this Act :

Now I, the said Secretary of State, do hereby authorize and require you, the said local authority, and all and every other officers and officer for the time being of Her Majesty's Customs at the said Port, to seize and search the said vessel, and detain her until she has been either condemned or released by process of law, or in the manner in this Act in that behalf mentioned and provided.

Given under my hand this fourteenth day of August, one thousand eight hundred and ninety-four.

(Signed) KIMBERLEY.

COPIES of WARRANTS issued by the Secretary of State on the 14th August, 1894, authorizing the detention of the ship "Islam" at Glasgow.

Presented to both Houses of Parliament by Command of Her Majesty (pursuant to Act 33 & 34 Vict., c. 30). August 1894.

COPIES OF WARRANTS

ISSUED BY THE

SECRETARY OF STATE ON THE 9TH AUGUST, 1894,

AUTHORIZING THE

DETENTION OF A
TORPEDO CATCHER LYING AT ELSWICK.

*Presented to both Houses of Parliament by Command of Her Majesty (pursuant to
Act 33 & 34 Vict., c. 90). August 1894.*

LONDON:

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90, WEST NILE STREET, GLASGOW; OR
HODGES, FIGGIS, & Co. (LIMITED), 104, GRAFTON STREET, DUBLIN.

COPIES of WARRANTS for the detention of a Torpedo-catcher, lying at Elswick, issued by the Secretary of State for Foreign Affairs on the 9th August, 1894.

(A.)

The Right Honourable the Earl of Kimberley, K.G., Her Majesty's Principal Secretary of State for Foreign Affairs, to Mr. George Rennison, the Acting Collector of Her Majesty's Customs at and for the Port of Newcastle-on-Tyne, and to all and every other Officers and Officer for the time being of Her Majesty's Customs at and for the said Port, being the local authority or authorities, as defined by "The Foreign Enlistment Act, 1870," for the purposes thereof.

WHEREAS it has been made to appear to my satisfaction, and I do hereby state that there is reasonable and probable cause for believing that a certain vessel (a torpedo-catcher), now being within Her Majesty's dominions, to wit, within the limits of the said Port of Newcastle-on-Tyne, has been or is being built, commissioned, or equipped contrary to the said Act, and is about to be taken beyond the limits of such dominions:

Now I, the said Secretary of State, do hereby authorize and require you, the said local authority, and all and every other officers and officer for the time being of Her Majesty's Customs at the said Port, to seize and search said vessel, and detain her until she has been either condemned or released by process of law, or in the manner in this Act in that behalf mentioned and provided.

Given under my hand this ninth day of August, one thousand eight hundred and ninety-four.

(Signed) KIMBERLEY.

(B.)

The Right Honourable the Earl of Kimberley, K.G., Her Majesty's Principal Secretary of State for Foreign Affairs, to Mr. George Rennison, the Acting Collector of Her Majesty's Customs at and for the Port of Newcastle-on-Tyne, and to all and every other Officers and Officer for the time being of Her Majesty's Customs at and for the said Port, being the local authority or authorities, as defined by "The Foreign Enlistment Act, 1870," for the purposes thereof.

WHEREAS it has been made to appear to my satisfaction, and I do hereby state that there is reasonable and probable cause for believing that a certain vessel (a torpedo-catcher), now being within Her Majesty's dominions, to wit, within the limits of the said Port of Newcastle-on-Tyne, is about to be dispatched contrary to this Act:

Now I, the said Secretary of State, do hereby authorize and require you, the said local authority, and all and every other officers and officer for the time being of Her Majesty's Customs at the said Port, to seize and search the said vessel, and detain her until she has been either condemned or released by process of law, or in the manner in this Act in that behalf mentioned and provided.

Given under my hand this ninth day of August, one thousand eight hundred and ninety-four.

(Signed) KIMBERLEY.

COPIES of WARRANTS issued by the Secretary of State on the 9th August, 1894, authorizing the detention of a Torpedo-catcher lying at Elswick.

Presented to both Houses of Parliament by Command of Her Majesty (pursuant to Act 33 & 34 Vict., c. 90). August 1894.

DIVORCE AND MATRIMONIAL CAUSES.

RETURN to an Address of the Honourable The House of Commons,
dated 20 February 1894 ;—for,

“ RETURN of the Number of SUITS instituted Year by Year from 1888 to 1893 (both Years inclusive), first in the Court for DIVORCE and MATRIMONIAL CAUSES, and subsequently in the PROBATE, DIVORCE, and ADMIRALTY DIVISION of the HIGH COURT of JUSTICE, (a) for Judicial Separation, (b) for Divorce: such Return to distinguish between Suits by Husbands and Suits by Wives, and to state in how many Cases the Suit was Successful, in how many Cases it was Dismissed, and how many Suits never came to a Hearing; to state also in how many Cases the Queen’s Proctor Intervened or showed Cause, and the Results of such Intervention or showing Cause (in continuation of Parliamentary Paper, No. 80, of Session 1889).”

Home Office, }
13 April 1894. }

GEORGE W. E. RUSSELL.

(*Mr. Henniker Heaton.*)

Ordered, by The House of Commons, to be Printed,
16 April 1894.

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RETURN of the Number of SUITS instituted Year by Year from 1888 to 1893 (both Years inclusive), first in the Court for DIVORCE and MATRIMONIAL CAUSES, and subsequently in the PROBATE, DIVORCE, and ADMIRALTY DIVISION of the HIGH COURT of JUSTICE, (a) for Judicial Separation, (b) for Divorce: such Return to distinguish between Suits by Husbands and Suits by Wives, and to state in how many Cases the Suit was Successful, in how many Cases it was Dismissed, and how many Suits never came to a Hearing; to state also in how many Cases the Queen's Proctor Intervened or showed Cause, and the Results of such Intervention or showing Cause (in continuation of Parliamentary Paper, No. 80, of Session 1889).

PROBATE, DIVORCE, and ADMIRALTY DIVISION of the HIGH COURT of JUSTICE.

YEARS.	Whether Petition Presented by Husband or Wife.	Petitions		Suits Tried				Causes which never came to a Hearing.	In how many Cases the Queen's Proctor Inter- vened or showed Cause.	Result of the Queen's Proctor's Intervention or showing Cause.	
		For Judicial Separation.	For Divorce or Dissolution of Marriage.	For Judicial Separation.		For Divorce or Dissolution of Marriage.				Reversal of Decree.	Un- successful.
				Successful.	Dismissed.	Successful.	Dismissed.				
1888	By Husband	4	309	—	1	226	13	73	11	10	1
	By Wife	129	225	39	8	166	7	134	19	9	—
1889	By Husband	10	314	4	—	226	12	82	8	8	—
	By Wife	115	208	40	12	144	4	123	7	7	—
1890	By Husband	6	326	1	—	231	19	81	17	16	2
	By Wife	111	215	38	9	169	7	103	11	11	—
1891	By Husband	1	306	—	—	195	32	80	20	20	—
	By Wife	84	220	18	3	147	14	122	10	9	1
1892	By Husband	2	305	—	—	194	35	78	22	18	2
	By Wife	106	234	33	4	160	20	123	10	7	1
1893	By Husband	5	307	2	—	129	11	12 153	4	2	1 1
	By Wife	110	212	12	4	107	2	25 171	5	2	— 3
		683	3,181	188	41	2,094	176	1,036 329	132	118	9 4

D. H. Owen,
Senior Registrar.

The Senior Registrar of the Principal Probate Registry, when forwarding to the Secretary of State the figures for this Return, makes the following remarks:—

"With regard to the Return for the years 1888, 1889, and 1890, in some few cases the petition has been filed for dissolution of marriage and a decree for judicial separation made.

"1891-92.—There are a few cases which have been recently revived, and some are in the present list for hearing. There are also a few cases where the petitioner has obtained a decree nisi and the Queen's Proctor has intervened, but the cause has not yet come to hearing.

"In some few cases the respondent (wife) in her answer has prayed for dissolution or judicial separation, and has obtained decrees. So also where the husband in his answer has charged the wife with adultery and the parties have been cited. The result in either case has been recorded as a successful petition.

"In one case the jury disagreed at the hearing and were dismissed without giving a verdict, and it has not yet been re-tried.

"In another case the wife (petitioner) was successful in obtaining a decree nisi and afterwards resumed cohabitation with her husband, and the decree was rescinded.

"Of the causes which never came to a hearing the majority may be taken to refer to petitions for judicial separation, and the parties have resumed cohabitation or separated by private arrangement.

"1893.—Upwards of 200 causes commenced in this year are still pending. These are distinguished amongst the 'Causes which never came to hearing,' by the figures in *Italics*; and so also with regard to the Queen's Proctor's intervention, under the heading of 'Unsuccessful.'"

DIVORCE AND MATRIMONIAL CAUSES.

RETURN of the Number of Suits instituted Year by Year from 1888 to 1893 (both Years inclusive), first in the Court for Divorce and Matrimonial Causes, and subsequently in the Probate, Divorce, and Admiralty Division of the High Court of Justice, (a) for Judicial Separation, (b) for Divorce: such Return to distinguish between Suits by Husbands and Suits by Wives, and to state in how many Cases the Suit was Successful, in how many Cases it was Dismissed, and how many Suits never came to a Hearing; to state also in how many Cases the Queen's Proctor Intervened or showed Cause, and the Results of such Intervention or showing Cause (in continuation of Parliamentary Paper, No. 80, of Session 1889).

(*Mr. Henniker Heaton.*)

*Ordered, by The House of Commons, to be Printed,
16 April 1894.*

[*Price 3 d.*]

EXPERIMENTS ON LIVING ANIMALS.

RETURN to an Address of the Honourable The House of Commons,
dated 18 April 1894;—for,

“ RETURN showing the Number of EXPERIMENTS performed on LIVING ANIMALS during the Year 1893, under LICENSES granted under the Act 39 & 40 Vict. c. 77, distinguishing Painless from Painful Experiments (in continuation of Parliamentary Paper, No. 203, of Session 1893).”

Home Office, }
4 May 1894. } ..

GEORGE W. E. RUSSELL.

(*Mr. George Russell.*)

Ordered, by The House of Commons, to be Printed,
4 May 1894.

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RETURN showing the Number of EXPERIMENTS performed on LIVING ANIMALS during the Year 1893, under LICENSES granted under the Act 39 & 40 Vict. c. 77, distinguishing Painless from Painful Experiments (in continuation of Parliamentary Paper, No. 203, of Session 1893).

ENGLAND AND SCOTLAND.

Sir,

I HAVE the honour to submit the following Report on Experiments performed in England and Scotland during the Year 1893, under the Act 39 & 40 Vict. c. 77, including,—

- I. The Names of all Persons who have held Licenses or Special Certificates during any part of the Year; together with a Statement of the Registered Places, at which the Licenses were valid, and the Names of Persons qualified under the Act to sign applications for Licenses, and to grant Special Certificates.
- II. The Total Number of Experiments performed during 1893, classified and arranged according to their general Nature.

R E P O R T.

THE names of all those persons who held licenses during 1893 will be found in Tables I. and II. The total number of licensees was 184, of whom 49 performed no experiments.

In 1893 there were 56 “licensed places,” in 37 different institutions, in England and Scotland. Two “licensed places” were added, and seven “licensed places” were removed from the register, in the course of the year.

The names of all those “licensed places” to which licensees were accredited are given in the tables. All licensees were restricted to the licensed place or places specified on their licenses, with the exception of those who were permitted to perform inoculation experiments in places other than a “licensed place,” with the object of studying outbreaks of disease among animals in remote districts.

Tables I. and II. afford evidence,—

1. That licenses and certificates have been granted and allowed only upon the recommendation of persons of high scientific standing;
2. That the licensees are persons who, by their training and education, are fitted to undertake experimental work and to profit by it;
3. That all experimental work has been conducted in suitable places.

Table III. shows the number and the nature of the experiments performed by each licensee mentioned in Table I., specifying whether these experiments were done under the license alone or under any special certificate, so that the reader may judge which experiments (if any) were of a painful nature.

From

From this table it appears that the total number of experiments performed in 1893 was 4,046.

Of these, there were performed,—

Under license alone	-	-	-	-	-	-	1,061
„ Certificate A.	-	-	-	-	-	-	2,183
„ Certificate A. + E.	-	-	-	-	-	-	67
„ Certificate B.	-	-	-	-	-	-	317
„ Certificate B. + EE.	-	-	-	-	-	-	274
„ Certificate C.	-	-	-	-	-	-	140
„ Certificate F. + A.	-	-	-	-	-	-	4
Total	-	-	-	-	-	-	4,046

In experiments performed under the license alone, or under Certificate C., of which the combined total for the year is 1,201, the animal suffers no pain, because complete anæsthesia is maintained from before the commencement of the experiment until the animal is killed.

In experiments conducted under Certificate A. (or E. or F. linked with A.), of which the combined total for the year is 2,254, the pain of the operation (which is practically always of the nature of hypodermic injection or inoculation) is trivial; and it is always made a condition of this certificate that “if severe pain has been induced in an animal after any of the said experiments has been performed under the said certificate, and if the main result of the experiment has been attained, it is a condition of this license that the animal be immediately killed under anæsthetics.”

In experiments performed under Certificate B. (or E., EE., or F. linked with B.), of which the combined total for the year is 591, the animal is anæsthetised during the operation, but is allowed to recover. These operations, in order to ensure success, are necessarily done with as much care as are similar operations upon the human subject, and the wounds being dressed antiseptically no pain results during the healing process.

When inoculation experiments are performed under Certificate B. (of which there were 169 during the past year) the same condition as attaches to Certificate A. is enforced.

Certificates E., EE., or F., when allowed, are invariably linked with A. or B. What has been said, therefore, with regard to A. and B. applies to E., EE., and F.

At the beginning of the year, the new Certificate EE. (which carries with it the conditions of Certificate B. and is always linked therewith) came into force, but it was not deemed necessary to cancel the old Certificates E. (linked with B.), which are still in force. For the future all new certificates for experimenting on cats and dogs under the conditions of Certificate B. will be allowed only on the form designated EE.

As regards the nature of the experiments, 885 were physiological, 2,065 were pathological, and 1,096 were therapeutical or pharmacological.

During the year 121 visits of inspection to the various licensed places were made by Dr. Russell and myself, which have been severally reported.

I am, Sir,

Your obedient Servant,

G. V. Poore,

Inspector.

29 March 1894.

The Right Honourable the Secretary of State
for the Home Department.

ENGLAND AND SCOTLAND.

TABLE I.
LIST of LICENSEES who performed EXPERIMENTS under their LICENSES and CERTIFICATES in 1893.

	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses.	
			A.	B.	C.	D.	A. or B.)	F.	
ABERDEEN:									
1	University, Physiological Department	John A. McWilliam, M.D.	-	1 (g)	1	-	-	-	President of the Royal College of Surgeons, England; Professor of Physiology, University College, London; President of the Faculty of Physicians and Surgeons, Glasgow; President of the Royal College of Surgeons, Edinburgh; Professor of Materia Medica, University of Aberdeen.
1	- - Ditto	William Findlay, M.B., C.M.	-	1	-	-	-	-	President of the Royal College of Physicians; Professor of Materia Medica and Therapeutics, University of Aberdeen.
1	University, Pathological Laboratory, Materia Medica Laboratory, Bacteriological Laboratory and Animal Room, Marischal College, Aberdeen.	John Theodore Cash, M.D., F.R.S.	2 (h)	-	1	-	1 (g)	-	President of the Royal College of Physicians; Professor of Physiology, University College, London; President of the Royal Society; Professor of Physiology, University of Oxford; President of the Royal College of Surgeons, Ireland; Professor of the Institute of Medicine, University of Aberdeen; President of the General Medical Council; Professor of Physiology, University of Aberdeen.
1	University Pathological Laboratory	George Dean, M.B.	1	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Physiology, University of Aberdeen.
1	- - Ditto	D. G. G. Macdonald, M.B., M.S.	1	-	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Physiology, University of Aberdeen.

ENGLAND AND SCOTLAND—*continued*.TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—*continued*.

NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
		Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics, E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses.	
CAMBRIDGE— <i>continued</i> .	1 University, Pathological Laboratory	1 (i)	1 (i)	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
	1 - - Ditto - - ditto	1 (i)	1 (i)	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
	1 - - Ditto - - ditto	1	1 (i)	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
	1 - - Ditto - - ditto	1	1	-	-	-	-	President of the Royal College of Physicians; Regius Professor of Physic, University of Cambridge.
	1 - - Ditto - - ditto	1	-	-	-	-	-	President of the Royal College of Surgeons, England; Professor of Physiology, University of Cambridge.
	1 - - Ditto - - ditto	1	-	-	-	-	-	Professor of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
DUNDEE:	1 The Chemical and Physiological Departments of University College.	1	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; President of the Royal College of Physicians, Edinburgh.
	1 University, Physiological Department	-	-	1	2 (k)	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Physiology, University of Edinburgh.
EDINBURGH:	1 University, Physiological Department	-	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; President of the Royal College of Physicians, Edinburgh.
	1 - - Ditto - - ditto	-	-	-	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Physiology, University of Edinburgh.

1	- - Ditto - - ditto - -	D. Noel Paton, M.D., C.M. (i)	-	4 (m)	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Physiology and Institute of Medicine, University of Edinburgh; Professor of Anatomy, University of Edinburgh; President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Materia Medica, University of Edinburgh; President of Royal College of Surgeons, Edinburgh.
1	University, the Laboratory of the Surgical Department.	D. W. Johnston, M.D., M.A., L.R.C.S. (g).	1 (i)	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Surgery, University of Edinburgh.
1	University, Materia Medica Department	William C. Sillar, M.B., B.Sc.	1	-	-	-	President of the Royal Society of Edinburgh; Professor of Materia Medica, University of Edinburgh.
1	- - Ditto - - ditto - -	Joseph Tillie, M.D.	3 (h)	1	-	-	President, Royal College of Physicians, Edinburgh; Professor of Medical Jurisprudence, University of Edinburgh; Professor of Practice of Physic, University of Edinburgh; Professor of Materia Medica and Therapeutics, University of Edinburgh; Professor of Surgery, University of Edinburgh; Professor of Physiology, University of Edinburgh.
1	- - Ditto - - ditto - -	Thomas R. Fraser, M.D., F.R.S. (g)	1 (i)	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Medical Jurisprudence, University of Edinburgh.
1	The Rooms and Out-houses of the Laboratory of the Royal College of Physicians, 7, Lauriston-lane, Edinburgh.	Francis D. Boyd, M.B., M.R.C.P.E.	1 (i)	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of the Practice of Physic, University of Edinburgh.
1	- - Ditto - - ditto - -	R. J. A. Berry, M.B., &c.	-	1	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Clinical Surgery, University of Edinburgh.
1	- - Ditto - - ditto - -	R. W. Philip, M.B.	2 (k)	-	-	-	President of the Royal College of Physicians, Edinburgh; President of the Royal College of Surgeons, Edinburgh; Professor of Practice of Physic, University of Edinburgh.

(g) This license is no longer in force.

(i) Dr. Paton could also perform experiments at the Physiological Laboratory, Surgeons' Hall, Edinburgh.

(j) This certificate is no longer in force.

(k) One of these certificates is no longer in force.

(m) Two of these certificates are no longer in force.

(n) Three of these certificates are no longer in force.

ENGLAND AND SCOTLAND—*continued.*TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—*continued.*

	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics.	Permitting Experiments on Horses, Mules, or Asses.	
			A.	B.	C.	D.	E. or EE. (always coupled with A. or E.)	F.	
EDINBURGH—<i>continued.</i>									
1	The Rooms and Outhouses of the Laboratory of the Royal College of Physicians, 7, Lauriston-lane, Edinburgh.	Ralph Stockman, M.B.	2 (g)	-	-	-	1 (h)	-	President of the Royal College of Physicians, Edinburgh; Professor of Materia Medica, University of Edinburgh; President of the Royal College of Surgeons, Edinburgh; Professor of Practice of Physic, University of Edinburgh.
1	- - - Ditto - - - ditto - - -	W. G. W. Sanders, M.B., C.M., M.R.C.P.	-	1	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Materia Medica, University of Edinburgh.
1	- - - Ditto - - - ditto - - -	Theodore Shennan, M.B., M.S.	1	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Surgery, University of Edinburgh.
1	- - - Ditto - - - ditto - - -	Alexander C. Houston, M.B., C.M., B.Sc.	1	-	-	-	-	-	President of the Royal Society of Edinburgh; Professor of Surgery, University of Edinburgh.
1	GLASGOW:								
1	The Surgical Class Room and Surgical Laboratory in the University of Glasgow.	William Macewen, M.D., LL.D.	1	1	1	-	-	-	President of the Royal Society; Professor of Physiology, University of Glasgow; President of the Faculty of Physicians and Surgeons, Glasgow.
1	University, Physiological Laboratory, and Physiological Class Room.	W. E. F. Thomson, M.B. (†)	1 (h)	-	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Physiology, University of Glasgow.
1	University, Physiological Laboratory	Joseph Coats, M.D.	1	-	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Medicine, University of Glasgow; Professor of Physiology, University of Glasgow.

1	The Medical Department of St. Mungo's College, Glasgow.	Charles Workman, M.D.	-	1	-	-	-	-	-	President of the Faculty of Physicians and Surgeons of Glasgow; Professor of Materia Medica in the University of Glasgow; Regius Professor of Surgery, University of Glasgow.
1	- - Ditto - - ditto	John Barlow, M.D., F.R.C.S.	-	-	-	1	-	-	-	President of the Faculty of Physicians and Surgeons of Glasgow; Professor of Physiology, University of Glasgow.
1	LIVERPOOL: The Physiological Laboratories of the Medical School of University College, Liverpool.	H. Leslie Roberts, M.B.	-	1	-	-	-	-	-	President of the Royal College of Surgeons, England; Holt Professor of Physiology, University College, Liverpool.
1	- - Ditto - - ditto	Alfred A. Kanthack, M.B. (k)	-	3 (g)	2 (g)	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge; President of the Royal College of Surgeons, England; President of the General Medical Council; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	Francis Gotch, M.R.C.S.	-	-	1	1	-	1	-	President of the Royal Society; Professor of Physiology in the University of Oxford; President of the Royal College of Surgeons, England.
1	LONDON: University College, London; the new Physiological Theatre and the Rooms comprised in the Physiological Laboratory, together with the Curator's Room.	E. A. Schäfer, F.R.S.	-	-	2	1	-	1	-	President of the Royal Society; Professor of Physiology in University College, London; Professor of Physiology in the University of Cambridge; Professor of Physiology, King's College, London; President of the Royal College of Physicians.
1	- - Ditto - - ditto; also the Rooms of the Pathological Department.	Henry Percy Dean, M.S., F.R.C.S. (l)	-	-	1	-	-	1	-	President of the General Medical Council; Professor of Surgery in University College, London; President of the Royal College of Surgeons, England; Professor of Physiology, University College, London.
1	The Physiological Laboratory, University College.	J. R. Bradford, M.D., D.Sc.	-	-	3 (g)	-	-	2 (g)	-	President of the Royal College of Physicians; President of the Royal College of Surgeons, England; Jodrell Professor of Physiology, University College, London.

(g) One of these certificates is no longer in force.

(h) This certificate is no longer in force.

(i) This license is no longer in force.

(k) After 23rd October Mr. Kanthack could only perform experiments at the portion of building used by the Medical School, St. Bartholomew's Hospital, London.

(l) Mr. Dean can also perform experiments at the Rooms and Out-houses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the buildings of the Conjoint Examination Board on the Victoria Embankment, London.

ENGLAND AND SCOTLAND—continued.

TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—continued.

	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthetics.	Permitting Experiments in Illustration to Lectures	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics.	Permitting Experiments on Horses, Mules, or Asses.	
			A.	B.	C.	D.	E. or E.E. (always coupled with A. or B.)	F.	
LONDON—continued.									
1	The Physiological Laboratory, University College.	F. H. E. Edgeworth, M.B., B.A. (g)	-	1 (h)	-	-	1 (h)	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - - Ditto	William M. Bayliss, B.A., B.Sc. (i)	-	-	-	-	-	-	President of the Royal Society; Jodrell Professor of Physiology, University College, London.
1	- - - Ditto	J. H. Parsons, B.Sc., M.R.C.S. (g)	-	2 (k)	-	-	1 (h)	-	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - - Ditto	John Berry Haycraft, M.B., B.Sc.	-	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of the Institutes of Medicine, University of Edinburgh.
1	- - - Ditto	S. Martin, M.D., F.R.C.P. (l)	4 (m)	1 (h)	-	-	-	-	President of the Royal Society; Professor of Physiology, University College, London; President of the Royal College of Physicians.
1	The Pathological Department, University College, London.	R. W. Boyce, M.R.C.S.	1 (h)	3 (k)	1	-	1 (h)	-	President of the General Medical Council; Professor of Surgery, University College, London; President of the Royal College of Physicians; Professor of Clinical Medicine, University College, London.
1	- - - Ditto	J. S. R. Russell, M.B.	-	3 (n)	-	-	3 (n)	-	President of the Royal College of Physicians; Professor of Surgery, University College, London; President of the Royal College of Surgeons, England; Professor of Materia Medica, University College, London.

1	- - Ditto	- -	- -	- -	- -	- -	- -	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	1 (h)	- -	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1 (h)	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1 (h)	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1 (h)	- -	- -	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1	- -	- -	President of the Royal College of Physicians; Professor of Clinical Medicine, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1 (h)	- -	- -	President of the Royal College of Physicians; Professor of Clinical Medicine, University College, London.
1	- - Ditto	- -	- -	- -	- -	- -	1	- -	- -	President of the Royal College of Physicians; Professor of Clinical Medicine, University College, London.
1	King's College, Physiological Laboratory	- -	- -	- -	- -	- -	- -	1	- -	President of the General Medical Council; Professor of Physiology, University Col- lege, London.
1	Bacteriological Laboratory, King's Col- lege, London.	- -	- -	- -	- -	- -	- -	- -	- -	Professor of Clinical Surgery, King's College, London; Professor of Anatomy, King's College, London; President of the Royal College of Physicians.
1	- - Ditto	- -	- -	- -	- -	- -	- -	- -	- -	President, Royal College of Physicians; Professor of Physiology, King's College, London.

(g) This license is no longer in force.

(h) This certificate is no longer in force.

(k) These certificates are no longer in force.

(i) After 4th August Mr. Bayliss could perform experiments at the portion of building used by the Medical School, Guy's Hospital.
(j) Dr. Martin can also perform experiments at the Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the building of the Conjoint Examination Board on the Victoria Embankment, London, and could also perform at Greenhill, Harrow, up to the 23rd October, at which date that place was removed from the Register.

(m) Three of these certificates are no longer in force.

(n) Two of these certificates are no longer in force.

(o) After 10th June 1893 Dr. Buxton could also perform experiments at the Physiological Department, University College, London.

1	- - Ditto - - ditto - - -	T. J. Bokenham, M.R.C.S. (m) -	2	1	1	- - -	- - -	President of the Royal Society; Professor of Physiology, University of Cambridge; President of the Royal College of Physicians; Professor of Physiology, University College, London; President of the General Medical Council.
1	- - Ditto - - ditto - - -	Edmund Cantley, M.B., M.R.C.P.	-	-	1	- - -	- - -	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto - - -	H. M. Fletcher, M.A., M.B. (n) -	2 (k)	-	1	- - -	1	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto - - -	Charles B. Lockwood, F.R.C.S. -	1	1	-	- - -	- - -	President of the Royal College of Surgeons, England; Professor of Physiology University of Cambridge; President of the Royal College of Physicians of the General Medical Council.
1	- - Ditto - - ditto - - -	T. Lauder Brunton, M.D. -	-	-	1	- - -	- - -	President of the Royal Society; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - - -	F. W. Andrews, M.R.C.P., M.R.C.S. (o).	1	-	-	- - -	- - -	President of the Royal College of Physicians; Professor of Physiology, University of Oxford.
1	Guy's Hospital, London; the portion of building used by the Medical School.	John W. Washbourn, M.D., F.R.C.S., M.R.C.P.	2 (k)	-	-	- - -	- - -	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto - - -	Ernest H. Starling, M.B., B.S. (p)	1	1	1	- - -	1	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - - -	Thomas Stevenson, M.D., F.R.C.P.	2	-	-	- - -	1	President of the Royal College of Physicians; Professor of Medical Jurisprudence, University College, London; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - - -	George Turner, M.B. -	1	-	-	- - -	- - -	President of the Royal College of Surgeons, England; Downing Professor of Medicine, University of Cambridge.

(g) Mr. Crookshank could also perform experiments at the Royal Veterinary College, Camden Town, N.W.

(i) After 14th October Mr. Waring could also perform experiments at the Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the buildings of the Conjoint Examination Board on the Victoria Embankment, London.

(n) Mr. Bokenham can also perform experiments at the Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the buildings of the Conjoint Examination Board on the Victoria Embankment, London.

(o) Mr. Fletcher can also perform experiments at the Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the buildings of the Conjoint Examination Board on the Victoria Embankment, London.

(p) Mr. Starling can also perform experiments at the Laboratory, Stables, and Post-mortem Room of the Brown Institution, Wandsworth-road, London.

(h) This license is no longer in force.

(k) One of these certificates is no longer in force.

ENGLAND AND SCOTLAND—*continued*.TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—*continued*.

NAMES OF REGISTERED PLACES.			Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
NAMES OF LICENSEES.			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advancement of Knowledge by testing previous Discoveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.	
A.	B.	C.	D.						
LONDON—continued.									
1	Guy's Hospital, London; the portion of building used by the Medical School.	John Fawcett, M.D., F.R.C.S.	-	1	-	-	1	-	President of the Royal College of Surgeons, England; Professor of Physiology, University of Cambridge.
1	The Bacteriological Department, consisting of the Laboratories on the top floor and of the back room in the basement of 101, Great Russell-street, W.C., known as the College of State Medicine.	Allan MacFadyen, M.D., B.Sc.	1	-	-	-	-	-	President of the Royal College of Physicians; President of the Royal College of Surgeons, England; Professor of Physiology, University College, London.
1	The Royal Veterinary College, Camden Town; the Sheds and loose Boxes occupying the north-east part of the buildings, together with the Demonstrator's Room adjoining the Dissecting Room.	Robert Cozens Bailey, M.R.C.S. (g).	-	3 (h)	-	-	1	-	President of the Royal College of Surgeons, England; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - - -	John McFadyean, M.B., B.Sc. (i)	4 (k)	-	-	-	-	2 (h)	President of the Royal College of Surgeons, Edinburgh; Professor of Anatomy, University of Edinburgh; Professor of Surgery, University of Edinburgh; Professor of Medicine, University of Edinburgh.
1	- - Ditto - - ditto - - -	John Penberthy, F.R.C.V.S.	2 (h)	-	-	-	-	-	President of the General Medical Council; Professor of Physiology, Royal Veterinary College, N.W., Professor of Materia Medica, University College, London; President of the Royal College of Physicians; President of the Royal College of Surgeons, England.
1	St. Mary's Hospital, Paddington; the Physiological and Toxicological Laboratories of the Medical School.	William L. Symes, M.R.C.S.	1 (l)	2 (h)	1	-	-	-	President of the Royal College of Surgeons, England; Professor of Physiology, University College, London.

1	- - Ditto - - ditto	J. J. Clarke, M.B., F.R.C.S. -	2 (h)	1	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, University of Cambridge; President of the General Medical Council; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	A. P. Luff, M.D., &c. -	1	-	-	-	-	-	President of the General Medical Council; Professor of Physiology, University College, London.
1	St. Thomas's Hospital; the Physiological Laboratory of the Medical School.	Samuel G. Shattock, F.R.C.S. -	1	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	A. S. F. Grünbaum, B.A. -	-	2	-	-	-	1	President of the Royal Society; Professor of Physiology, University of Cambridge; President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	Everett Millais -	1	-	-	-	-	1	President of the Royal College of Physicians; Professor of Physiology, in the University of Cambridge.
1	- - Ditto - - ditto	S. A. M. Copeman, M.A., M.D. (m).	1	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto	Charles S. Sherrington, M.A., M.B. (n).	2	3	1	-	-	3	President of the Royal Society; Professor of Physiology in the University of Cambridge; President of the Royal College of Physicians; President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Physiology, University College, London; Regius Professor of Physic, University of Cambridge; President of the General Medical Council; President of the Royal College of Surgeons, England.
1	Charing Cross Hospital, Medical School, 62 and 63, Chandos-street.	F. W. Mott, M.D., B.S., M.R.C.P. (o).	-	2	1	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University College, London; President of the General Medical Council.
1	- - Ditto - - ditto	Charles Arkle, M.D., M.R.C.P. -	1	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology; University College, London.

(g) Mr. Bailey can also perform experiments at the Rooms and Out-houses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the buildings of the Conjoint Examination Board on the Victoria Embankment, London. After the 13th March St. Bartholomew's Hospital was substituted for the Royal Veterinary College.

(h) One of these certificates is no longer in force.

(i) Mr. M'Fadyen can also perform experiments at such place or places in the United Kingdom as may be approved by the Inspector for such experiments.

(k) Two of these certificates are no longer in force.

(m) Dr. Copeman can also perform experiments at the Pathological Laboratory, University of Cambridge, and at the Laboratory, Stables, and Post-mortem Room of the Brown Institution, Wandsworth-road, London.

(n) Mr. Sherrington can also perform experiments at the Laboratory, Stables, and Post-mortem Room of the Brown Institution, Wandsworth-road, London.

(o) Dr. Mott can also perform experiments at the Physiological and Pathological Laboratories, University College, London.

ENGLAND AND SCOTLAND—*continued*.TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—*continued*.

NAMES OF REGISTERED PLACES.		NAMES OF LICENSEES.		Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.	
				Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.		
				A.	B.	C.	D.				
LONDON—continued.											
1	Brown Institution, Wandsworth-road, London; the Laboratory, Stables, and Post-mortem Room.	Alfred H. Tubby, M.B., F.R.C.S. (g).		-	1	-	-	1	-	President of the Royal College of Physicians; President of the Royal Society; Professor of Physiology, King's College, London; Professor of Physiology, University Col- lege, London.	
1	- - Ditto - - ditto - -	Victor Horsley, M.B., F.R.C.S., B.S., F.R.S. (h).		3	3 (i)	1	-	2 (i)	-	President of the General Medical Council; Professor of Surgery, University College, London; President of the Royal College of Physicians; Professor of Medicine, University College, London; President of the Royal College of Surgeons, Eng- land.	
1	- - Ditto - - ditto - -	W. G. Spencer, M.S., M.B., F.R.C.S. (j).		-	-	-	-	-	-	President of the General Medical Council; Professor of Surgery, University College, London.	
1	- - Ditto - - ditto - -	Walter Edmunds, M.D. - -		2	5	-	-	2	-	President of the Royal College of Physicians; President of the Royal College of Sur- geons, England; Professor of Physiology, University of Cambridge; Professor of Physiology, University College, London; President of the General Medical Council.	
1	- - Ditto - - ditto - -	C. A. Ballance, M.D., F.R.C.S. -		-	1	-	-	1	-	President of the Royal College of Physicians; Professor of Surgery, University College, London.	

1	- - Ditto - - ditto	- - -	E. E. Klein, M.D., F.R.S. (m)	-	2 (i)	-	-	-	-	-	-	President of the Royal Society; Professor of Physiology in the University of Oxford; Professor of Physiology, University of Cambridge; President of the Royal College of Surgeons, England; President of the Royal College of Physicians.
1	- - Ditto - - ditto	- - -	John S. Edkins, M.B. (n)	-	-	-	-	1	-	-	-	Professor of Physiology, Owens College, Manchester; President of the Royal College of Physicians, Edinburgh; President of the General Medical Council; Professor of Physiology, University of Cambridge.
1	The Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the building of the Conjoint Examination Board on the Victoria Embankment.	- - -	T. H. A. Chaplin, M.B., M.R.C.P.	-	-	1 (k)	-	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, King's College, London.
1	- - Ditto - - ditto	- - -	George Allan Heron, M.D. (o)	-	1 (k)	1 (k)	-	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, University College, London; Professor of Materia Medica, University College, London.
1	- - Ditto - - ditto	- - -	D'Arcy Power, F.R.C.S.	-	-	2 (i)	-	-	-	-	-	President of the Royal College of Surgeons, England; Professor of Physiology, University College, London; President of the Royal College of Physicians.
1	- - Ditto - - ditto	- - -	John Edward Squire, M.D.	-	1	-	-	-	-	-	-	President of the General Medical Council; Professor of Materia Medica and Therapeutics, University College, London.
1	- - Ditto - - ditto	- - -	William A. Turner, M.B. (p)	-	-	2	-	-	-	-	-	President of the Royal College of Physicians; Professor of Clinical Surgery, King's College, London.
1	- - Ditto - - ditto	- - -	William S. Fenwick, M.D., B.Sc., F.R.C.P.	-	1	1 (k)	-	-	-	-	1 (k)	President of the Royal College of Physicians; Professor of Physiology, University of Oxford; Professor of Surgery, University College, London.

(g) Mr. Tubby can also perform experiments at the portion of Building used by the Medical School, Guy's Hospital.

(h) Mr. Horsley can also perform experiments at the Physiological Laboratory, University College, London, and also at such place or places as may be necessary.

(i) One of these certificates is no longer in force.

(k) This certificate is no longer in force.

(l) Mr. Sprucer can also perform experiments at the Rooms of the Pathological Department, University College, London.

(m) Dr. Klein can also perform experiments at the portion of Building used by the Medical School, St. Bartholomew's Hospital, London.

(n) After 8th November Mr. Edkins could also perform experiments at the portion of Building used by the Medical School, St. Bartholomew's Hospital, London.

(o) Mr. Turner can also perform experiments at the Neuro-Pathological Laboratory, King's College, London.

ENGLAND AND SCOTLAND—continued.

TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—continued.

Certificates held by each Licensee.									
	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Special	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustrati. n to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.	Scientific Authorities recommending Licenses and granting Certificates.
			A.	B.	C.	D.	E. or EE. (always coupled with A. or B.)	F.	
1	LONDON—continued. The Rooms and Out-houses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the building of the Conjoint Examination Board on the Victoria Embankment.	Gerran S. Woodhead, M.D., F.R.C.P.E. (g).	5 (n)	-	-	-	2 (h)	-	President of the Royal College of Physicians; Professor of Physiology, University College, London; Professor of Physiology, University of Oxford.
1	- - Ditto - - ditto - - -	S. H. Habershon, M.D., M.R.C.P. (i).	1 (j)	1 (j)	-	-	1 (j)	-	President of the Royal College of Physicians; Professor of Physiology, University College, London; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto - - -	F. W. Pavy, M.D., F.R.S. -	1 (j)	-	-	-	1 (j)	-	President of the Royal College of Physicians; Professor of Physiology in University College, London; Professor of Forensic Medicine in University College, London; Professor of Physiology, University of Oxford; President of the General Medical Council.
1	- - Ditto - - ditto - - -	Alfred Eddowes, M.D., M.S. -	1	-	-	-	1	-	President of the Royal College of Physicians; Professor of Surgery, King's College, London.
1	- - Ditto - - ditto - - -	G. E. Cartwright Wood, M.D., B.Sc., M.R.C.S. (s) (k).	2 (l)	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Surgery, University of Edinburgh; President of the Royal College of Physicians; Professor of Physiology, University College, London.

1	- - Ditto - - ditto	J. Haflkine, M.D. (i) (m)	-	1 (j)	-	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, University College, London.
1	- - Ditto - - ditto	William K. Fyffe, M.B., M.R.C.P.	-	1	-	-	-	-	-	President of the Royal College of Physicians; Regius Professor of Medicine, University of Cambridge.
MANCHESTER:										
1	Owens College, Physiological and Pathological Laboratories.	William Stirling, M.D., F.R.S.E.	-	-	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Anatomy in the University of Aberdeen; President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Anatomy, Owens College, Manchester.
1	Owens College, the Physiological Laboratory.	Robert Main Horne, M.B., C.M. (i).	-	-	1 (j)	-	-	-	-	President of the Royal Society, Edinburgh; Professor of Physiology, Owens College, Manchester.
1	Owens College, the Pathological Laboratory.	Sheridan Delépine, M.B. -	-	2 (h)	-	-	-	-	-	President of the Royal College of Physicians; Professor of Medicine, Victoria University (Owens College), Manchester.
1	- - Ditto - - ditto	Thomas Harris, M.D., F.R.C.P. -	-	1	-	-	-	-	-	President of the Royal College of Surgeons; Professor of Physiology, University College, London.
NETLEY:										
1	Army Medical School, Pathological Laboratory.	David Bruce, M.B. -	-	2 (h)	-	-	-	-	-	President of the Royal College of Physicians; President of the Royal Society; Professor of Physiology, King's College, London.
1	- - Ditto - - ditto	Almroth E. Wright, M.D. -	-	2 (h)	2 (h)	1	-	-	2 (h)	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge; Professor of Physiology, University of Oxford; Professor of Physiology, University College, London.

(g) Dr. Woodhead could also perform experiments at the Stable and Yard (next to the London, Brighton, and South Coast Railway Line) in the Boundaries-road, Balham, which place was removed from the Register from 30th December 1893.

(h) One of these certificates is no longer in force.

(j) This certificate is no longer in force.

(k) After 1st August Dr. Wood could also perform experiments at the Stable and Yard (next to the London, Brighton, and South Coast Railway Line) in the Boundaries-road, Balham, which place was removed from the Register from 30th December 1893.

(l) These certificates are no longer in force.

(m) Dr. Haflkine could also perform experiments at the Physiological and Pathological Laboratories, University of Cambridge.

(n) Four of these certificates are no longer in force.

ENGLAND AND SCOTLAND—continued.

TABLE I.—List of Licensees who performed Experiments under their Licenses and Certificates in 1893—*continued.*

NAMES OF REGISTERED PLACES.		NAMES OF LICENSEES.		Certificates held by each Licensee.						Scientific Authorities recommending Licensees and granting Certificates.		
				Special for Experiments without Anæsthetics.	A.	B.	C.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	D.		Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or F.B. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.
NEWCASTLE-ON-TYNE:												
1	The Physiological Laboratory and Museum of the University of Durham College of Medicine, Newcastle-on-Tyne.	Thomas Oliver, M.D., F.R.C.P.	-	4 (g)	-	-	1	-	-	1 (h)	-	President of the Royal College of Physicians, Professor of Medicine in the University of Durham; President of the Royal College of Surgeons, England.
1	- - Ditto - - ditto - - -	George R. Murray, M.B., M.R.C.P.		2 (i)	2 (i)	-	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	OXFORD: Physiological Laboratory, University Museum.	James L. Smith, M.A., M.B. (L)	-	1	3 (i)	-	-	-	-	2 (i)	-	President of the Royal College of Physicians; Professor of Physiology, University of Oxford; Regius Professor of Physic, University of Cambridge; President of the General Medical Council; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto - - -	Leonard Hill, M.B., M.R.C.S., L.R.C.P. (l).		-	3 (m)	-	-	-	-	2 (i)	-	President of the Royal Society; Professor of Physiology, University College, London; President of the Royal College of Physicians; Professor of Physiology, University of Oxford; Professor of Surgery, University College, London; President of the Royal College of Surgeons, England.
1	- - Ditto - - ditto - - -	J. Burdon-Sanderson, M.D., F.R.C.S., F.R.S. (n).		1 (h)	-	-	1	-	-	-	-	President of the Royal Society; President of the General Medical Council; President of the Royal College of Physicians.

1	- - Ditto - - ditto - -	John S. Haldane, M.A., M.D.	-	-	-	-	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, University of Edinburgh; President of the Royal College of Surgeons of Edinburgh.
1	- - Ditto - - ditto - -	A. F. Stanley Kent, M.A. (o)	-	1	2 (i)	-	-	2 (i)	-	-	President of the General Medical Council; Professor of Physiology, University of Oxford; President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - -	M. S. Pembrey, M.A., M.B., B.CH.	-	-	1	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Oxford.
1	SWANSEA: The Technical Institute, Nelson Terrace (p).	William Morgan, F.H.D., F.C.S., F.I.C. (s)	-	1 (h)	-	-	-	1 (h)	-	-	President of the General Medical Council; Professor of Materia Medica, University College, London.
1	WAKEFIELD: The Pathological Museum and Laboratory at the West Riding Asylum at Wakefield.	Edwin Goodall, M.D.	-	1 (h)	2 (i)	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto - -	W. L. Ruxton, M.B., M.S. (r)	-	1	-	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	WOOLWICH: The Royal Horse Infirmary - -	Francis Raymond, F.R.C.V.S.	-	1	-	-	-	1	-	1	President of the Royal College of Surgeons, England; President of the Royal College of Veterinary Surgeons; Resident Professor of the Royal Veterinary College, Camden Town; Professor of Physiology, King's College, London.
135		TOTAL	-	120	102	32	2	59	-	3	

(i) One of these certificates is no longer in force.

(h) This certificate is no longer in force.

(g) Three of these certificates are no longer in force.

(k) After 15th February Mr. Smith could only perform experiments at the Pathological Laboratory, University of Cambridge.

(m) Two of these certificates are no longer in force.

(l) After 10th November Mr. Hill could only perform experiments at the Physiological and Pathological Departments of University College, London.

(n) Dr. Ruxton-Sanderson is not restricted to the registered place, so far as relates to the performance of experiments under his license; and he could only perform experiments under his certificate in Column 3 in the registered places in University College, London.

(o) Mr. Kent can also perform experiments at the Physiological Laboratory of the Medical School, St. Thomas's Hospital, and at the Laboratory, Stables and Post-mortem Room of the Brown Institution, Wandsworth-road, London.

(p) On the 7th August this place was removed from the Register.

(r) After 6th November Mr. Ruxton could only perform experiments at the Pathological Laboratory of the West Riding Asylum at Wadley, Sheffield.

(s) This license is no longer in force.

ENGLAND AND SCOTLAND—continued.

TABLE II.

LIST of LICENSEES who performed No EXPERIMENTS under their LICENSES and CERTIFICATES in 1893, and List of Registered Places at which No Experiments were performed.

	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anesthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anesthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anesthetics. E. or EE. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.	
—			A.	B.	C.	D.	(always coupled with A. or B.)	F.	
	ABERDEEN:								
—	The Medical Jurisprudence Laboratory and Class Room in the University of Aberdeen.	—	—	—	—	—	—	—	—
—	ALDERSHOT:								
—	The Army Veterinary School, P Lines, South Camp, Aldershot.	—	—	—	—	—	—	—	—
	CAMBRIDGE:								
1	University, Physiological Laboratory, New Museum.	Gustavus Piotrowski, M.D. (g)	—	—	—	—	—	—	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	- - - Ditto - - - ditto	Walter H. Gaskell, M.A. (g)	—	—	—	—	—	—	President of the Royal Society; Professor of Anatomy in University of Cambridge.
1	University Pathological Laboratory, New Museum.	John G. Adami, M.A., M.R.C.S. (g)	1 (h)	1 (h)	1 (h)	—	2 (i)	—	President of the Royal College of Physicians, Professor of Physiology, University of Cambridge; Professor of Physiology, University College, London.
1	- - - Ditto - - - ditto	George Cunningham, M.A. (h)	—	1	—	—	—	—	President of the Royal College of Phy- sicians; Professor of Physiology, Uni- versity of Cambridge; Professor of Anatomy, University of Cambridge.

1	- - Ditto - - ditto - - -	George Oliver, M.D., F.R.C.P. (g)	-	-	-	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University of Cambridge.
1	DUNDEE: The Chemical and Physiological Departments of University College, Dundee.	E. W. Reid, B.A., M.B.	-	-	-	1	-	-	-	President of the Royal Society; Professor of Physiology, University of Cambridge.
1	EDINBURGH: University, Physiological Department	Edmund W. Cartier, M.D.	-	-	2 (i)	1	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Physiology, University of Edinburgh.
1	- - Ditto - - ditto - - -	Gustav Mann, M.B.	1	-	1	-	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Physiology, University of Edinburgh.
1	University, Materia Medica Department	A. E. Morrison (g)	-	-	1 (h)	-	-	1 (h)	-	President of the Royal College of Surgeons, Edinburgh; Professor of Surgery, University of Edinburgh.
1	The Rooms and Outhouses of the Laboratory of the Royal College of Physicians, 7, Lauriston-lane, Edinburgh.	Henry A. Thomson, M.B., B.S., F.R.C.S.	1	-	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Anatomy, University of Edinburgh.
1	- - Ditto - - ditto - - -	John Macpherson, M.B., M.R.C.P.E.	1	-	1	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Surgery, University of Edinburgh.
1	- - Ditto - - ditto - - -	William Lundie, M.B., C.M. (g)	-	-	-	-	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Materia Medica, University of Edinburgh.
1	Park-place Medical School, Park-place -	Robert F. C. Leith, M.A., M.B. (g)	-	-	-	-	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Surgery, University of Edinburgh.
1	- - Ditto - - ditto - - -	Robert M. Murray, M.B., C.M. (l)	-	-	-	-	-	-	-	President of the Royal College of Physicians, Edinburgh; President of the Royal College of Surgeons, Edinburgh; Professor of Clinical Surgery, University of Edinburgh; Professor of Surgery, University of Edinburgh.

(g) This license is no longer in force.

(h) Mr. Cunningham can also perform experiments at the Laboratory, Stables, and Post-mortem Room of the Brown Institution, Waudsworth-road, London.

(i) Mr. Murray can also perform experiments at the Room and Outhouses of the Laboratory of the Royal College of Physicians, 7, Lauriston-lane, Edinburgh.

(k) This certificate is no longer in force.

(l) These certificates are no longer in force.

ENGLAND AND SCOTLAND—*continued*.TABLE II.—List of Licensees who performed No Experiments under their Licenses and Certificates in 1893, &c.—*continued*.

	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Dis- coveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics, E. or EE.	Permitting Experiments on Horses, Mules, or Asses. F.	
			A.	B.	C.	D.	(always coupled with A. or B.)		
1	EDINBURGH— <i>continued</i> . The Laboratory and Physiological Class Room of the Veterinary College, Edinburgh.	William Russell, M.D.	2 (g)	-	-	-	-	-	President of the Royal College of Surgeons, Edinburgh; Professor of Medical Juris- prudence, University of Edinburgh; Pro- fessor of Midwifery, and of the Diseases of Women and Children, University of Edinburgh.
-	The Department of Medical Jurispru- dence in the University of Edinburgh.	-	-	-	-	-	-	-	-
-	The University, Pathological Depart- ment, New Buildings.	-	-	-	-	-	-	-	-
-	The University, Practice of Physic De- partment.	-	-	-	-	-	-	-	-
-	The New Veterinary College, 41, Elm- row, Edinburgh.	-	-	-	-	-	-	-	-
	GLASGOW:								
1	The Laboratory attached to the Materia Medica Retiring Room, Glasgow Uni- versity.	Matthew Charteris, M.D.	1	1 (h)	-	-	-	-	President of the Royal College of Physi- cians, Edinburgh; President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Anatomy, Uni- versity of Glasgow.
1	- - Ditto - - ditto	William MacLennan, M.B., C.M.	1	1	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Materia Medica, University of Glasgow; Professor of Anatomy, University of Glasgow.

1	University, Physiological Laboratory, Physiological Class Room.	A. N. MacGregor, M.D. (i)	-	-	-	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Physiology, University of Glasgow.
1	- - Ditto - - ditto	William Snodgrass, M.A., M.D., C.M.	-	-	-	-	-	-	-	President of the Faculty of Physicians and Surgeons of Glasgow; Professor of Practice of Medicine, University of Glasgow.
1	University, Physiological Laboratory	John G. McKendrick, M.D., F.R.S.	-	-	1	2	-	-	1	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Anatomy, University of Glasgow; President of the Royal Society; Professor of Practice of Medicine, University of Glasgow.
1	Veterinary College, 23 and 25, Buccleuch-street.	Robert Kirk, M.D., C.M. (i)	-	-	1 (h)	-	-	-	1 (h)	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Clinical Surgery, University of Glasgow; Professor of Materia Medica, University of Glasgow; President of the Royal College of Physicians.
1	The Medical Department of St. Mungo's College, Glasgow.	John L. Steven, M.D.	-	-	-	-	-	-	-	President of the Faculty of Physicians and Surgeons, Glasgow; Professor of Materia Medica, University of Glasgow.
1	LIVERPOOL: The Physiological Laboratories of the Medical School of University College, Liverpool.	Frank Thomas Paul, F.R.C.S.	-	-	2 (g)	-	-	-	1	President of the General Medical Council; President of Royal College of Surgeons, England; Professor of Physiology, University College, Liverpool (Victoria University).
1	- - Ditto - - ditto	Damer Harrison, F.R.C.S.E.	-	-	1	-	-	-	1	President of the Royal College of Surgeons, England; Professor of Physiology, University College, Liverpool (Victoria University).
1	LONDON: The Physiological Laboratory, University College, London.	H. W. M. Tims, M.D.	-	-	1	-	-	-	-	President of the Royal College of Physicians; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	W. H. Thompson, M.D.	-	-	1	-	-	-	-	President of the Royal College of Physicians, Professor of Physiology, University College, London.

(g) One of these certificates is no longer in force.

(h) This certificate is no longer in force.

(i) This license is no longer in force.

ENGLAND AND SCOTLAND—*continued.*TABLE II.—List of Licensees who performed No Experiments under their Licenses and Certificates in 1893, &c.—*continued.*

—	NAMES OF REGISTERED PLACES.	NAMES OF LICENSEES.	Certificates held by each Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
			Special for Experiments without Anæsthetics.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia.	Permitting Experiments in Illustration to Lectures.	For the further Advance- ment of Knowledge by testing previous Discoveries.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. or E.E. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asse.	
			A.	B.	C.	D.	A. or B.)	F.	
	LONDON— <i>continued.</i>								
1	The Pathological Department, University College, London.	Alexander Haig, M.D., F.R.C.P.	-	-	-	-	-	-	President of the Royal College of Physicians ; Professor of Physiology, University of Oxford.
1	- - - ditto	C. D. Marshall, F.R.C.S., L.R.C.P. (g)	-	1 (h)	-	-	1 (h)	-	President of the Royal College of Physicians ; Professor of Surgery, University College, London.
1	- - - ditto	William Page May, M.D., B.Sc. (g)	-	1 (h)	-	-	1 (h)	-	President of the Royal College of Physicians ; Professor of Surgery, University College, London.
1	- - - ditto	E. L. Mellus, M.D.	-	1	-	-	-	-	President of the Royal College of Surgeons, England ; Professor of Clinical Medicine, University College, London.
1	King's College, Physiological Laboratory	Thomas G. Brodie, M.R.C.S., L.R.C.P.	-	-	-	-	-	-	Professor of Physiology, King's College, London ; President of the Royal Society.
1	- - - ditto	William Watson Cheyne, M.D., F.R.C.S. (s)	1	-	-	-	-	-	President of the Royal College of Surgeons, England ; Professor of Clinical Surgery, King's College, London ; Professor of Physiology, King's College, London.

1	- - Ditto - - ditto	J. W. Pickering, B.Sc. (g)	-	-	-	-	-	-	President, Royal College of Physicians ; Professor of Physiology, King's College, London.
1	Bacteriological Laboratory, King's College, London.	Phineas S. Abraham, M.D., F.R.C.S.I. (g) (k)	1 (h)	-	-	-	-	-	President of the Royal College of Physicians ; Professor of Anatomy, University of Cambridge.
1	St. Bartholomew's Hospital, London ; portion of building used by Medical School.	V. D. Harris, M.D.	1 (h)	-	-	-	1	-	President of the Royal College of Surgeons, England ; Professor of Physiology in University College, London ; President of the Royal College of Physicians ; Professor of Physiology, University of Cambridge.
1	- - Ditto - - ditto	Edward C. Bousfield, L.R.C.P., M.R.C.S.	1	-	-	-	-	-	President of the Royal College of Physicians ; Professor of Physiology, University of Oxford.
1	- - Ditto - - ditto	James Calvert, B.A.	1	1	-	-	-	2	President, Royal College of Physicians ; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	R. D. Batten, M.D., B.S., M.R.C.S. (g) (l)	-	1 (h)	-	-	-	1 (h)	President of the Royal Society ; Professor of Physiology, University of Oxford ; President of the Royal College of Physicians ; Professor of Physiology, University College, London.
1	Guy's Hospital, London ; the portion of Building used by Medical School.	W. H. White, M.D. M.R.C.S.	-	1	-	-	-	-	Professor of Physiology, University of Cambridge ; President of the General Medical Council ; President of the Royal College of Physicians.
1	- - Ditto - - ditto	William Arbuthnot Lane, M.S. (g)	-	1 (h)	-	-	-	1 (h)	President of the Royal College of Physicians ; Professor of Physiology, University College, London.

(g) This license is no longer in force.

(h) This certificate is no longer in force.

(i) Mr. Cheyne can also perform experiments at the Laboratory Studies and Post-mortem Room of the Brown Institution, Wandsworth-road, London ; the Rooms and Outhouses of the Laboratory of the Royal College of Physicians and Surgeons (London and England), situated in the Buildings of the Laboratory of Surgical Pathology, King's College, London.

(k) Mr. Abraham could also perform experiments at the registered places of the Royal Veterinary College, Camden Town, London.

(l) Dr. Batten could also perform experiments at the Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the Buildings of the Conjoint Examination Board on the Victoria Embankment, London.

1	The Rooms and Outhouses of the Laboratory of the Royal Colleges of Physicians and Surgeons (London and England), situated in the building of the Con-joint Examination Board on the Victoria Embankment.	Frederick B. Jessett, F.R.C.S. (i)	-	-	1 (k)	-	-	1 (k)	-	President of the Royal College of Physicians; Professor of Surgery, University College, London; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	Howard H. Tooth, M.A., M.D. (i)	-	-	1 (k)	-	-	-	-	President of the Royal College of Physicians; Professor of Surgery, University College, London; Professor of Physiology, University College, London.
1	- - Ditto - - ditto	Gerald Fitzgerald, M.B., C.M. (i)	1 (k)	-	-	-	-	-	-	President of the Royal College of Physicians, Edinburgh; Professor of Anatomy, University of Edinburgh; Professor of Materia Medica, University of Edinburgh.
-	London Hospital Medical College (m)	-	-	-	-	-	-	-	-	-
-	MANCHESTER: The Toxicological Laboratory, Owens College.	-	-	-	-	-	-	-	-	-
-	NOTTINGHAM: Room 46 in the University College (n)	-	-	-	-	-	-	-	-	-
1	OXFORD: The Laboratory in the University Museum (specifically described as the new building completed in 1892) Oxford. (o)	E. Ray Lankester (i)	1 (k)	-	-	-	-	-	-	President of the Royal Society.
49		TOTAL	19	28	6	-	-	16	1	

(g) Mr. G. T. Brown may also perform experiments under the certificate, dispensing with the use of anaesthetics, at such places as may be necessary, provided that when reporting the result to the inspector he shall state the name of the place or places where the experiments have been performed.

(h) Professor Romanes could also perform experiments at the Physiological and Pathological Laboratories, University College, London.

(i) This license is no longer in force.

(j) Dr. Acland can also perform experiments at the Pathological Laboratory, University of Cambridge, and at the Physiological Laboratory of the Medical School, St. Thomas Hospital.

(m) On the 21st August this place was removed from the Register. (n) On the 18th February this place was removed from the Register. (o) On the 19th August this place was removed from the Register.

ENGLAND AND SCOTLAND—continued.

TABLE III.

Showing the Number and the Nature of the EXPERIMENTS performed by each LICENSEE.

NAME OF LICENSEE.	Under License.	UNDER CERTIFICATE.						NATURE.				REMARKS.
		A.	A. + E.	B.	B. + E. or EE.	C.	D.	F.	Physiological.	Pathological.	Therapeutical.	
Anderson, H. K.	33	-	-	-	-	-	-	-	38	-	-	Painless. Inoculations.
Andrewes, F. W.	-	2	-	-	-	-	-	-	-	2	-	Hypodermic injections.
Arkle, C.	-	2	-	-	-	-	-	-	-	2	-	
Bailey, R. C.	-	-	-	-	13	-	-	-	-	5	8	Aseptic wounds.
Ballance, C. A.	-	-	-	-	6	-	-	-	-	6	-	Aseptic wounds.
Barlow, J.	-	-	-	-	-	2	-	-	2	-	-	Painless.
Baylis, William M.	72	-	-	-	-	-	-	-	72	-	-	Painless.
Beavor, Sir H. R.	-	3	-	-	-	-	-	-	-	-	-	Inoculations.
Berry, R. J. A.	-	-	-	-	-	-	-	-	-	3	-	Aseptic wounds.
Bokenham, T. J.	12	50	-	4	-	-	-	-	4	-	-	13 painless; 53 inoculations.
Boycer, R. W.	20	-	-	3	-	1	-	-	1	65	-	47 aseptic wounds; 20 painless.
Boyd, Francis D.	-	3	-	20	27	-	-	-	-	67	-	Hypodermic injections.
Bradford, J. R.	20	-	-	-	5	-	-	-	25	3	-	20 painless; 5 aseptic wounds.
Bruce, David	-	45	-	-	-	-	-	-	-	45	-	Inoculations.
Brunton, T. L.	-	-	-	-	-	2	-	-	-	-	2	Painless.
Buxton, D. W.	1	-	-	-	-	-	-	-	1	-	-	Painless.
Cantley, Edmund	-	-	-	-	-	3	-	-	3	-	-	Painless.
Cash, John Theodore	23	19	-	-	-	3	-	-	-	-	45	26 painless; 19 hypodermic injections.
Chaplin, T. H. A.	-	-	-	27	-	-	-	-	-	27	-	Inoculations.
Cheatle, G. L.	-	15	-	-	-	-	-	-	-	16	-	Inoculations.
Clarke, J. J.	-	3	-	-	-	-	-	-	-	3	-	Inoculations.
Coats, Joseph	-	2	-	-	-	-	-	-	-	2	-	Inoculations.
Cobbett, Louis	-	54	-	-	-	-	-	-	-	54	-	Hypodermic injections.

[illegible]

ENGLAND AND SCOTLAND—continued.

TABLE III.—Showing the Number and the Nature of the Experiments performed by each Licensee—continued.

NAME OF LICENSEE.	Under License.	UNDER CERTIFICATE.						NATURE.			REMARKS.	
		A.	A. + E.	B.	B. + E. or EE.	C.	D.	F.	Physiological.	Pathological.		Therapeutical.
Haycraft, John Berry	12	-	-	-	-	-	-	-	4	-	8	Painless.
Heape, W.	-	-	-	4	-	-	-	-	4	-	-	Aseptic wounds.
Heron, George Allan	-	-	-	114	-	-	-	-	-	114	-	Inoculations.
Hewlett, Richard T.	-	9	-	-	-	-	-	-	-	9	-	Inoculations.
Hill, Leonard	-	-	-	4	5	-	-	-	9	-	-	Aseptic wounds.
Home, George	2	-	-	-	-	-	-	-	2	-	-	Painless.
Horne, R. M.	-	-	-	4	-	-	-	-	-	4	-	Bleeding.
Horsley, Victor	160	15	-	5	14	22	-	-	-	146	70	132 painless; 19 aseptic wounds; 15 inoculations.
Houston, Alexander C.	-	1	-	-	-	-	-	-	-	1	-	Inoculation.
Illingworth, C. R.	-	11	-	-	-	-	-	-	-	11	-	Inoculations.
Johnston, D. W.	-	3	-	-	-	-	-	-	-	3	-	Inoculations.
Jones, E. L.	4	-	-	-	-	-	-	-	-	4	-	Painless.
Kanthack, Alfred A.	-	45	-	-	-	-	-	-	-	45	-	Inoculations.
Keng, Lim Boon	-	-	-	-	-	-	-	-	-	-	-	No return. License expired 31st October 1893.
Kent, A. F. Stanley	-	-	-	-	20	-	-	-	-	20	-	Aseptic wounds.
Klein, E. E.	-	50	-	-	-	-	-	-	-	50	-	Inoculations.
Kramer, S. P.	-	-	-	6	-	-	-	-	-	-	6	Withdrawal of small quantities of blood.
Langley, J. N.	21	-	-	-	11	2	-	-	34	-	-	23 painless; 11 aseptic wounds.
Lanz, Otto	-	-	-	-	-	-	-	-	-	-	-	No return. License expired 1st September 1893.
Latham, A. C.	-	5	-	2	-	-	-	-	-	7	-	Inoculations.
Lazarus-Barlow, W. S.	35	9	-	-	-	-	-	-	-	44	-	35 painless; 9 hypodermic injections.
Lee, A. S.	-	-	-	-	-	2	-	-	2	-	-	Painless.
Levy, A. G.	30	-	-	-	-	-	-	-	30	-	-	Painless.

[illegible]

I R E L A N D.

R E P O R T.

8, Ely-place, Dublin,

9 April 1894.

Sir,

I HAVE the honour to submit the following Tables, showing the experiments performed in Ireland during the year 1893, under the Act 39 & 40 Vict. c. 77.

Four licenses have been in existence during the year; one of them has expired, and one was granted in June. No certificates were in existence, and none were applied for, during 1893.

Twelve experiments were made on 12 animals, viz., eight rabbits, two frogs, one rat, and one mouse. These experiments were painless, and were, in my opinion, directed to useful ends. Eight of them were intended to determine the virulence of bacterial poisons; three to examine the phenomena of circulation, and one to elucidate the therapeutic action of a drug.

I have the honour to be,

Sir,

Your obedient Servant,

W. Thornley Stoker,

Inspector for Ireland.

To the Right Hon.

The Chief Secretary for Ireland.

IRELAND.

TABLE I.

LIST of LICENSEES who performed EXPERIMENTS under their Licenses in 1893.

NAMES OF REGISTERED PLACES.		Certificates held by Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
		NAMES OF LICENSEES.	Special for Experiments without Anæsthetics. A.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia. B.	Permitting Experiments in Illustration of Lectures (Anæsthetics obligatory). C.	For the further Advancement of Knowledge by testing previous Discoveries. D.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.
DUBLIN :								
1	The Physiological Laboratory, 3, Wilton-terrace; the Physiological Laboratory, Carmichael College; and the Physiological Laboratory, Trinity College.	J. M. Purser, M.D.	-	-	-	-	-	-
1	Bacteriological Laboratory in School of Medicine, Cecilia St., Dublin.	Edmond J. McWeeney, M.D.	-	-	-	-	-	-
								James Little, Esq., President Royal College of Physicians, Ireland. President Royal Irish Academy; and President Royal College of Surgeons, Ireland.

TABLE II.

LIST of LICENSEES who performed No EXPERIMENTS under their Licenses in 1893.

NAMES OF REGISTERED PLACES.		Certificates held by Licensee.						Scientific Authorities recommending Licenses and granting Certificates.
		NAMES OF LICENSEES.	Special for Experiments without Anæsthetics. A.	Dispensing with the Obligation to Kill the Animal before Recovering from Anæsthesia. B.	Permitting Experiments in Illustration of Lectures (Anæsthetics obligatory). C.	For the further Advancement of Knowledge by testing previous Discoveries. D.	Permitting Experiments on Cats or Dogs, without Anæsthetics. E. (always coupled with A. or B.)	Permitting Experiments on Horses, Mules, or Asses. F.
DUBLIN :								
1	The Physiological Lecture Room, Royal College of Surgeons, the large Lecture Theatre, the small Lecture Theatre, and the Physiological Laboratory, Carmichael College.	Matthew Hedly, Esq., F.R.C.V.S.	-	-	-	-	-	-
1	The Physiological Lecture Rooms and Laboratory, Carmichael College.	J. Alfred Scott, F.R.C.S.I.	-	-	-	-	-	-
								H. G. Croly, Esq., President Royal College of Surgeons, Ireland; W. Stoker, Esq., Professor of Surgery, Royal College of Surgeons, Ireland. A. Meldon, Esq., President Royal College of Surgeons, Ireland; F. Houston, Esq., Professor of Anatomy, Royal College of Surgeons, Ireland.

TABLE III.

SHOWING the Number and the Nature of EXPERIMENTS performed by each LICENSEE during the Year 1893.

NAME OF LICENSEE.	Under License.	UNDER CERTIFICATE.							NATURE.				Pain.
		A.	B.	C.	D.	E.	F.	Physiological.	Pathological.	Therapeutical.	TOTAL.		
J. M. Purser, M.D. - - - - -	7	-	-	-	-	-	-	2	4	1	7	- none.	
Edmund J. McWeeney, M.D. - - - - -	5	-	-	-	-	-	-	-	5	-	5	- none.	
TOTAL - - - - -	12	-	-	-	-	-	-	-	-	-	12		

W. Thornley Stoker,
Inspector for Ireland under the Act 39 & 40 Vict. c. 77.

EXPERIMENTS ON LIVING ANIMALS.

RETURN showing the Number of EXPERIMENTS performed on LIVING ANIMALS during the Year 1893, under LICENSES granted under the Act 39 & 40 Vict. c. 77, distinguishing Painless from Painful Experiments (in continuation of Parliamentary Paper, No. 203, of Session 1893).

(*Mr. George Russell.*)

*Ordered, by The House of Commons, to be Printed,
4 May 1894.*

[*Price 4d.*]

GOVERNMENT FACTORIES (PENSIONS AND GRATUITIES).

RETURN to an Order of the Honourable The House of Commons,
dated 2 July 1894 ;—for,

RETURN “ of PENSIONS and GRATUITIES paid to Relatives of Persons Killed by
ACCIDENTS in GOVERNMENT FACTORIES between 1850 and 1860 (inclusive), and
a similar Return for the Years 1888–94 ; and also a Return of Persons now in
receipt of Pensions and Gratuities from same causes, stating Amounts and Dates
of Commencement.”

Treasury Chambers, }
21 August 1894. }

JOHN T. HIBBERT.

(*Colonel Lockwood.*)

Ordered, by The House of Commons, to be Printed,
22 August 1894.

LONDON:

PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
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RETURN of PENSIONS and GRATUITIES paid to Relatives of Persons Killed by ACCIDENTS in GOVERNMENT FACTORIES between 1850 and 1860 (inclusive), and a similar Return for the Years 1888-94 ; and also a Return of Persons now in Receipt of Pensions and Gratuities from same causes, stating Amounts and Dates of commencement.

RETURN of PENSIONS and GRATUITIES awarded to Relatives of Persons Killed by ACCIDENTS in GOVERNMENT (ADMIRALTY) FACTORIES between 1850 and 1860 (inclusive).

Date.	Name.	Description.	Award.	
			Pension.	Gratuity.
			£. s. d.	£. s. d.
1850	Buscombe, Charlotte, formerly Rowe -	Widow of a shipwright, Devonport - -	10 - -	- -
"	Radmore, Mary - - - - -	" " caulker, Pembroke Yard - -	12 - -	- -
1851	Hayman, Sarah - - - - -	" " policeman, Portsmouth Yard -	10 - -	- -
1852	Hooper, Martha - - - - -	" " joiner, Devonport - - - -	10 - -	- -
1854	Munro, Rhoda - - - - -	" " shipwright, Woolwich - -	10 - -	- -
1855	Hayes, Caroline - - - - -	" " rigger, Portsmouth Yard - -	10 - -	- -
"	Roberts, Elizabeth - - - - -	" " rigger, Devonport Yard - -	10 - -	- -
1856	Lawrie, — - - - -	" " chief engineer, Chatham Yard -	- -	600 - -
"	Webb, Mary - - - - -	" " shipwright, Sheerness Yard -	12 - -	- -
1858	Tozer, Emily - - - - -	" " mate of lighter, Devonport Yard	12 - -	- -
"	Williams, Mary A. - - - - -	" " shipwright, Keyham Yard - -	12 - -	- -
"	Wynhall, — - - - -	" " assistant engineer, employed by the Admiralty.	30 - -	- -
1859	Galivan, Joanna - - - - -	" " assistant fitter, Chatham Yard -	10 - -	- -
"	Thorn, Lucy - - - - -	" " hired shipwright, Deptford Yard	10 - -	- -
1860	Chisham, Sarah M. - - - - -	" " blacksmith, Portsmouth Yard -	12 - -	- -
"	Stanley, — - - - -	" " shipwright, Portsmouth Yard -	10 - -	- -

N.B.—The records for the period from 1850 to 1860 being imperfect, the completeness of the above Return cannot be guaranteed.

RETURN of PENSIONS and GRATUITIES Awarded to RELATIVES of PERSONS Killed by Accident
in Her Majesty's Naval Yards between 1st April 1888 and 31st March 1894.

Date of Award	Name of Widow.	Rank of Husband.	Naval Yard.	Pensions to Widows.	Gratuities to Widows and Children.
				£. s. d.	£. s. d.
1888	Wills, J. R. R.	Shipwright	Devonport	13 - 8	—
"	Aulton, Jane	Hired labourer	ditto	10 - -	4 - -
"	Cook, Louisa	" ditto	ditto	—	22 16 2
"	Salvateco, Guiseppa	" shipwright	Malta	10 - -	8 - -
1889	Soper, Lydia	" labourer	Portsmouth	—	19 11 -
"	Keats, S. A.	" fitter	ditto	11 16 4	33 12 -
"	Mundy, C. E.	" skilled labourer	ditto	10 - -	40 - -
"	Rozzell, E. A.	" ditto	ditto	10 - -	8 - -
"	Jones, N. S.	" labourer	ditto	10 - -	20 16 -
"	Murray, L.	Shipwright	Devonport	13 - 8	10 - -
"	March, E. J.	Hired mason	ditto	—	41 1 3
"	Thomas, M.	Inspector of shipwrights	Chatham	25 - -	10 - -
"	Swaney, Mrs.	Hired coolie	Trincomalee	—	4 15 4
"	Lo Owong	Fitter	Hong Kong	10 - -	8 16 0
1890	Satterley, M. S.	Labourer	Chatham	—	15 - -
"	Davies, Sarah	Shipwright	Pembroke	13 - 8	—
"	Gwynne, M. F.	Hired skilled labourer	ditto	10 - -	12 - -
1891	Luke, E. M.	" caulker	Portsmouth	—	47 3 -
"	Satchell, Bridget	" labourer	ditto	10 - -	8 - -
"	Hooper, L.	" ditto	ditto	10 - -	—
"	Masters, E.	Shipwright	Devonport	13 - 8	—
"	Clarke, E. J.	Rigger	ditto	5 13 -	40 - -
"	Cannon, E.	Hired labourer	ditto	10 - -	—
"	Hooper, E. S.	Leading man of labourers	Chatham	13 - 8	—
"	Allard, E. M.	Hired labourer	ditto	10 - -	8 16 -
"	Griffiths, M. A.	Shipwright	Pembroke	13 9 4	50 - -
"	Cooney, A. M.	Skilled labourer	Chatham	—	17 18 5
"	Phillippoe, A.	Hired carpenter	Trincomalee	—	13 19 7
1892	Le Quesne, E. D.	Shipwright	Portsmouth	10 15 6	—
"	Williams, A. M.	Skilled labourer	ditto	10 - -	37 12 -
"	Triggs, M. A.	Hired dock hand in dredger	ditto	10 - -	27 4 -
"	Williams, M.	" skilled labourer	Devonport	10 - -	—
"	Neil, M. H. C.	" labourer	ditto	10 - -	—
"	Trist, A.	" painter	ditto	10 8 6	17 - -
"	Burlace, M. A.	" labourer	Chatham	10 - -	8 - -
"	Ballard, H.	Rigger	Sheerness	11 5 11	46 - -
"	M'Causland, C.	Hired labourer	Pembroke	10 - -	14 8 -
"	Rees, M. A.	Shipwright	ditto	14 6 9	35 - -
"	Dalli, Mrs.	Hired labourer	Gibraltar	—	35 15 -
"	Enright, M. A.	Blacksmith	Haulbowline	11 9 5	—
"	Jenkins, E. A.	Shipwright	Pembroke	10 - -	13 - -
1893	Burton, J. K.	Skilled labourer	Portsmouth	10 - -	10 8 -
"	Hooper, M. J.	ditto	Devonport	10 - -	—
"	Brownlee, R. J.	Shipwright	Chatham	5 14 8	—
"	Chute, M.	Excavator	Haulbowline	10 - -	16 - -
"	Ebejer, C.	Shipwright	Malta	10 - -	23 16 -
"	Lok-hui, Mrs.	Hired coolie	Hong Kong	—	6 10 -
1894	Poppe, H. M.	Labourer	Chatham	10 - -	37 12 -
"	Bowles, M. A.	Ropemaker	ditto	11 14 7	10 - -
"	Bird, Julia	Shipwright	Portsmouth	13 18 1	10 - -
"	Rolls, Eliza	Labourer	ditto	10 - -	11 4 -

PENSIONS to RELATIVES of PERSONS KILLED in Her Majesty's Naval Yards.

LIST of PERSONS in Receipt of PENSIONS on the 1st April 1894.

Name of Pensioner.	Relationship, &c.	Naval Yard.	Amount of Pension.	Date of Commencement.
			£. s. d.	
Adams, Mary - - -	Widow of a rigger - - -	Devonport - - -	12 - -	2 Aug. 1879
Allard, E.M. - - -	" " hired labourer - - -	Chatham - - -	10 - -	15 April 1891
Allen, Mary - - -	" " caulker - - -	Sheerness - - -	13 - 10	11 Oct. 1876
Allison, Matilda - - -	" " shipwright - - -	Portsmouth - - -	7 10 -	7 Feb. 1869
Atkins, Mary A. - - -	" " labourer - - -	Sheerness - - -	12 - -	30 April 1878
Autton, Jane - - -	" " hired labourer - - -	Devonport - - -	10 - -	15 Feb. 1888
Bailey, Mary - - -	" " labourer - - -	Portsmouth - - -	10 - -	21 April 1883
Baker, Dinah - - -	" " shipwright - - -	Devonport - - -	7 10 -	31 Jan. 1862
Ball, Emma A. - - -	" " ditto - - -	Pembroke - - -	13 17 6	20 Feb. 1881
Ballard, Hannah - - -	" " rigger - - -	Sheerness - - -	11 5 11	18 Feb. 1892
Barrett, Mary - - -	" " ditto - - -	- ditto - - -	12 - -	21 Sept. 1861
Bath, Mary - - -	" " labourer - - -	Devonport - - -	12 - -	14 April 1884
Bousden, Emma J. - - -	" " hired labourer - - -	- ditto - - -	10 - -	13 Nov. 1881
Boulton, Henrietta - - -	" " ditto - - -	- ditto - - -	10 - -	28 July 1886
Boyce, Hannah - - -	" " forgerman - - -	Deptford - - -	17 - -	3 Mar. 1866
Brimmacombe, Mary - - -	" " shipwright - - -	Devonport - - -	12 - -	11 May 1872
Buchan, Jane - - -	" " ditto - - -	- ditto - - -	12 - -	26 Oct. 1871
Bugeja, Clemenzia - - -	" " rigger - - -	Malta - - -	10 - -	21 April 1887
Bulford, Mary A. T. - - -	" " leading man of shipwrights - - -	Devonport - - -	15 6 4	1 June 1883
Burlace, Mary Ann - - -	" " hired labourer - - -	Chatham - - -	10 - -	20 July 1892
Burton, Jane K. - - -	" " hired skilled labourer - - -	Portsmouth - - -	10 - -	26 Oct. 1893
Buscombe, Charlotte, formerly Rowe. - - -	" " shipwright - - -	Devonport - - -	10 - -	*3 Aug. 1850
Butchers, Elizabeth - - -	" " labourer - - -	- ditto - - -	7 10 -	4 June 1868
Brownlee, Rebecca J. - - -	" " hired shipwright - - -	Chatham - - -	5 14 8	6 Dec. 1893
Bird, Julia - - -	" " ditto - - -	Portsmouth - - -	13 18 1	15 Mar. 1894
Bowles, Mary Ann - - -	" " ropemaker - - -	Chatham - - -	11 14 7	11 Jan. "
Cadogan, Anne - - -	" " hired gas maker - - -	Pembroke - - -	12 9 10	25 Mar. 1884
Cannon, Ellen - - -	" " labourer - - -	Devonport - - -	10 - -	31 July 1891
Carter, Anne - - -	Mother " hired skilled labourer - - -	Chatham - - -	10 - -	4 Dec. 1885
Catt, Caroline - - -	Widow " shipwright - - -	- ditto - - -	13 - 10	16 April 1875
Chute, Margaret - - -	" " excavator - - -	Haulbowline - - -	10 - -	12 Feb. 1893
Clarke, Elizabeth J. - - -	" " rigger - - -	Devonport - - -	5 13 -	7 May 1891
Colenutt, Sarah E. H. - - -	" " ditto - - -	Sheerness - - -	12 - -	6 Mar. 1878
Collier, Hannah - - -	" " labourer - - -	Plymouth Breakwater. - - -	10 - -	16 Mar. 1882
Couch, Sarah - - -	" " joiner - - -	Devonport - - -	12 - -	8 Mar. 1873
Crusha, Martha L. - - -	" " hired fitter - - -	Portsmouth - - -	11 16 4	14 July 1876
Cudlip, Martha - - -	" " shipwright - - -	Chatham - - -	13 - 8	5 Jan. 1879
Daniels, Adeliza - - -	" " labourer - - -	- ditto - - -	10 - -	26 April "
Davies, Sarah - - -	" " shipwright - - -	Pembroke - - -	13 - 8	14 May 1890
Dubber, Sarah J. E. - - -	" " hired labourer - - -	Portsmouth - - -	12 - -	12 Dec. 1878
Durrant, Mary - - -	" " excavator - - -	Chatham - - -	10 - -	23 Feb. "
Ebejer, Carmela - - -	" " shipwright - - -	Malta - - -	10 - -	23 April 1893
Edmond, Mary - - -	" " smith - - -	Pembroke - - -	14 6 9	28 Feb. 1887
Egdom, Margaret - - -	" " shipwright - - -	Portsmouth - - -	12 - -	28 May 1869
Enright, M. A. - - -	" " blacksmith - - -	Haulbowline - - -	11 9 5	24 May 1892
Fairweather, Jane - - -	" " shipwright - - -	Devonport - - -	13 - -	21 Mar. 1874
Ferrugia, L. A. M. - - -	" " miner - - -	Gibraltar - - -	10 - -	10 Nov. 1878

* Renewed 28 May 1872, and again restored 29 February 1892.

LIST of Persons in Receipt of Pensions on the 1st April 1894—*continued.*

Name of Pensioner.	Relationship, &c.	Naval Yard.	Amount of Pension.	Date of Commencement.
			£. s. d.	
Fisler, Mary Ann - -	Widow of a hired labourer - - -	Pembroke - -	10 - -	2 May 1884
Frost, Mary J. - -	" " hired A. B. - - -	Devonport - -	10 - -	27 Jan. 1875
Galivan, Joanna - -	" " assistant fitter - - -	Chatham - -	10 - -	5 April 1859
Gilbert, Sarah A. - -	" " leading man of labourers -	ditto - -	12 - -	18 Sept. 1879
Graham, Mary J. - -	" " hired skilled labourer - -	Devonport - -	10 - -	4 Dec. 1875
Griffiths, Martha A. -	" " shipwright - - -	Pembroke - -	13 9 4	10 May 1891
Grundy, Emily - -	" " smith - - -	Devonport - -	7 10 -	14 Sept. 1862
Hall, Harriet L. - -	" " fitter - - -	Chatham - -	14 15 5	11 Sept. 1883
Hanton, Jane - -	" " engineer - - -	Haulbowline - -	18 5 -	4 Dec. 1887
Harnden, Eliza - -	" " hired labourer - - -	Portsmouth - -	10 - -	6 Feb. 1874
Harris, Sarah - -	" " temporary foreman - - -	Haulbowline - -	16 19 8	16 Nov. 1878
Hayes, Caroline - -	" " rigger - - -	Portsmouth - -	10 - -	21 Jan. 1855
Hayman, Sarah - -	" " policeman - - -	- ditto - -	10 - -	7 Oct. 1851
Heath, Eliza - -	" " foreman of smiths - - -	- ditto - -	12 - -	22 Oct. 1868
Hire, Phoebe - -	" " shipwright - - -	Pembroke - -	12 - -	8 Mar. 1867
Holmes, Mary A. - -	" " hired assistant boiler maker -	Devonport - -	10 - -	24 June 1883
Hooper, Lucy - -	" " hired labourer - - -	Portsmouth - -	10 - -	13 Aug. 1891
Hooper, Martha - -	" " joiner - - -	Devonport - -	10 - -	18 Mar. 1852
Hooper, Mary J. - -	" " skilled labourer - - -	- ditto - -	10 - -	5 Nov. 1892
Horn, Elizabeth H. - -	" " modeller - - -	Portsmouth - -	17 - -	6 Mar. 1873
Howard, Catherine - -	" " shipwright - - -	Devonport - -	7 10 -	25 Feb. 1866
Hughes, Mary A. - -	" " police constable - - -	Portsmouth - -	15 - -	12 May 1880
Hurley, Julia - -	" " labourer - - -	Haulbowline - -	10 - -	5 Jan. 1881
Hutchings, Caroline -	" " leading man - - -	Pembroke - -	16 19 1	27 Nov. 1874
Jacobs, Elizabeth - -	" " rigger - - -	Portsmouth - -	10 - -	1 Jan. 1873
Jenkins, Elizabeth A. -	" " s.s. shipwright - - -	Pembroke - -	10 - -	13 April 1892
Johnson, Margaret - -	" " painter - - -	Sheerness - -	12 - -	5 Feb. 1874
Johnson, Mary A. - -	" " caulker - - -	Portsmouth - -	12 - -	22 Aug. 1844
Jones, Ann - -	" " hired shipwright - - -	Devonport - -	11 2 6	8 May 1886
Jones, Naomi S. - -	" " hired labourer - - -	Portsmouth - -	10 - -	7 June 1889
Keat, Susan A. - -	" " hired fitter - - -	- ditto - -	11 16 4	19 April "
King, Ellen - -	" " extra rigger - - -	- ditto - -	12 - -	16 Feb. 1873
Kisbey, Mary A. - -	" " A.B. yard craft - - -	Sheerness - -	12 - -	29 May 1878
Lee, Elizabeth A. (formerly Brown).	" " hired labourer - - -	Portsmouth - -	10 - -	*8 Oct. 1874
Le Quesne, Elizabeth D. -	" " hired shipwright - - -	- ditto - -	10 15 6	28 May 1892
Lewis, Sophia - -	" " hired labourer - - -	Pembroke - -	10 - -	24 June 1877
Lock, Elizabeth A. - -	" " leading man of labourers -	Chatham - -	12 - -	17 Jan. 1885
Luscombe, Ann - -	" " ropemaker - - -	- ditto - -	12 - -	9 Mar. 1845
McCausland, Catherine -	" " hired labourer - - -	Pembroke - -	10 - -	15 Dec. 1891
Mahoney, Ellen - -	" " ditto - - -	Haulbowline - -	10 - -	25 April 1876
Main, Emma - -	" " pilot - - -	Portsmouth - -	17 - -	1 May 1873
Mallia, Liberata - -	" " Guiseppe - - -	Malta - -	7 10 -	20 June 1847
Mason, Lydia - -	" " sailmaker - - -	Chatham - -	12 - -	23 Mar. 1886
Masters, Eliza - -	" " shipwright - - -	Devonport - -	13 - 8	5 Mar. 1891
May, Ann - -	" " ditto - - -	- ditto - -	12 - -	23 Mar. 1869
Merelli, Anne - -	" " temporary seaman - - -	Malta - -	10 - -	21 April 1887
Metherell, Mary - -	" " leading man of shipwrights -	Devonport - -	17 - -	31 Oct. 1867
Milner, Sarah - -	" " shipwright - - -	Sheerness - -	13 - 8	21 Sept. 1879
Missud, Carnela - -	" " hired joiner - - -	Malta - -	10 - -	2 Feb. 1883
Missud, Giovanni - -	" " temporary painter - - -	- ditto - -	10 - -	22 Oct. 1885
Morgans, Eliza - -	" " labourer - - -	Pembroke - -	10 - -	7 Aug. 1884
Morton, Isabella - -	" " rigger - - -	Sheerness - -	12 - -	26 July 1884

List of Persons in Receipt of Pensions on the 1st April 1894—continued.

Name of Pensioner.	Relationship, &c.	Naval Yard.	Amount of Pension.	Date of Commence-ment.
			£. s. d.	
Mundy, Charlotte E.	Widow of a hired labourer	Portsmouth	10 - -	2 May 1869
Munro, Rhoda	" " shipwright	Woolwich	10 - -	12 Oct. 1854
Murray, Louisa	" " ditto	Devonport	13 - 8	2 Dec. 1888
Neil, Mary H. C.	" " hired labourer	- ditto -	10 - -	30 July 1892
Newton, Mary	" " hired fitter	Portsmouth	14 12 -	17 Sept. 1876
Nutter, Eliza	" " shipwright	- ditto -	12 - -	6 Oct. 1865
Oliver, Sophia	" " labourer	- ditto -	10 - -	11 June 1875
Owong, Lo	" " fitter and turner	Hong Kong	10 - -	2 June 1889
Palmer, E. J.	" " shipwright	Devonport	13 - 8	16 Dec. 1878
Pavey, Eliza	" " hired joiner	Portsmouth	10 - -	18 July 1875
Pearce, Mary	" " brakesman	Portland Breakwater	10 - -	27 July 1890
Peregrine, E. M. (formerly Williams).	" " shipwright	Pembroke	12 - -	*22 June 1865
Phebey, M. A.	" " ditto	Chatham	13 - 8	21 Feb. 1884
Phillips, Georgiana	" " carpenter	Bermuda	10 - -	28 July 1848
Plumb, Louisa	" " A.B. yard craft	Chatham	10 - -	15 Aug. 1885
Pomeroy, Helen	" " labourer	Royal William	12 - -	8 June 1881
Poppe, H. M.	" " hired skilled labourer	Chatham	10 - -	22 Dec. 1893
Powell, Louisa	" " hired labourer	Pembroke	10 - -	6 Feb. 1877
Radmore, Mary	" " caulker	- ditto -	12 - -	20 Jan. 1850
Rees, M. A.	" " shipwright	- ditto -	14 6 9	19 Jan. 1892
Richards, Elizabeth	" " ditto	- ditto -	13 - 8	19 June 1885
Richards, Mary J.	" " hired labourer	- ditto -	10 - -	20 Mar. 1879
Riding, Jane	" " ditto	Portsmouth	10 - -	20 Dec. 1878
Roberts, Elizabeth	" " rigger	Devonport	10 - -	5 July 1855
Robson, Clara	" " smith	Portsmouth	12 7 8	13 May 1880
Roch, Matilda	" " shipwright	Pembroke	12 - -	15 Sept. 1873
Rogers, Elizabeth	" " hired skilled labourer	Portsmouth	10 - -	4 Nov. 1885
Rolls, Eliza	" " labourer	- ditto -	10 - -	29 Mar. 1894
Romia, Emma	" " rigger	Devonport	12 - -	28 April 1868
Rozzell, Emma A.	" " hired skilled labourer	Portsmouth	10 - -	24 April 1889
Rudd, Susannah	" " ropemaker	Chatham	12 - -	5 Mar. 1864
Rudland, Sarah	" " single station joiner	- ditto -	13 - 8	18 April 1885
Ryder, Christina	" " rigger	Devonport	12 - -	15 Aug. 1875
Salvatico, Guiseppa	" " hired shipwright	Malta	10 - -	17 Sept. 1883
Satchell, Bridget	" " labourer	Portsmouth	10 - -	14 June 1891
Scott, Hannah	" " ditto	- ditto -	12 - -	13 Nov. 1874
Scrivens, Ann	" " metal-mill man	Chatham	12 7 8	12 May 1880
Shaw, Ellen A.	" " hired labourer	Devonport	10 - -	28 Oct. 1885
Simmons, Faval S. (formerly Bogle).	" " shipwright	Jamaica	12 9 7	†23 June 1880
Sobey, Mary A.	" " caulker	Devonport	13 - -	9 Jan. 1874
Sowden, Maria	" " engineer yard craft	Malta	34 8 5	22 April 1887
Stark, Ann	" " hired skilled labourer	Portsmouth	10 - -	19 April 1878
Sullivan, Jane	" " hired labourer	Devonport	10 - -	12 Feb. 1884
Tackett, Isabella	" " hired rigger	- ditto -	10 - -	17 May 1876
Terry, E. A.	" " smith	Chatham	14 19 9	1 Mar. 1885
Thomas, Elizabeth	" " joiner	Portsmouth	7 10 -	8 June 1870
Thomas, Laura	" " hired shipwright	Chatham	10 8 7	20 Mar. 1875
Thomas, Mary	" " inspector of shipwrights	- ditto -	25 - -	1 st July 1889
Thomas, Sarah J.	" " hired shipwright	Deptford	7 10 -	27 April 1867
Thorn, Lucy	" " ditto	- ditto -	10 - -	31 July 1859
Thorp, Harriet	" " painter	Portsmouth	10 - -	28 April 1886
Tozer, Emily	" " mate of lighter	Devonport	12 - -	16 Sept. 1858

* Restored 14 November 1887.

† Renewed 24 January 1889.

LIST of Persons in Receipt of Pensions on the 1st April 1894—*continued.*

Name of Pensioner.	Relationship, &c.	Naval Yard.	Amount of Pension.	Date of Commence-ment.
			£. s. d.	
Triggs, Mary Ann - -	Widow of a hired dock hand in dredger -	Portsmouth - -	10 - -	31 Aug. 1892
Trist, Alberta - -	" " hired painter - -	Devonport - -	10 8 6	6 Oct. 1892
Underwood, Louisa -	" " master, coal depôt - -	Sheerness - -	17 - -	11 May 1872
Vandelberg, Harriet -	" " rigger - -	Devonport - -	12 - -	12 Aug. 1879
Venning, Susanna - -	" " hired labourer - -	ditto - -	10 - -	24 Nov. "
Vine, Ann - -	" " hired shipwright - -	Portsmouth - -	10 15 6	19 Nov. 1881
Wallbridge, M. A. - -	" " ditto - -	- ditto - -	10 13 4	20 Aug. 1880
Walters, Elizabeth - -	" " saw-mill man - -	Chatham - -	10 - -	31 July 1861
Warburton, M. J. - -	" " smith - -	Portsmouth - -	16 18 11	10 Dec. 1878
Webb, Ellen - -	" " hired boilermaker - -	Chatham - -	12 3 4	21 Oct. 1876
Webb, Mary - -	" " shipwright - -	Sheerness - -	12 - -	8 Sept. 1856
Weeks, Bessie - -	" " hired skilled labourer - -	Portsmouth - -	10 - -	26 Feb. 1887
Westbrook, C. M. - -	" " engine driver - -	Royal Clarence - -	12 18 6	10 June 1876
Whale, Susan - -	" " hired labourer - -	Chatham - -	10 - -	7 Oct. 1884
White, Mary A. - -	" " shipwright - -	Pembroke - -	13 - 8	11 Sept. 1882
Whitehouse, C. - -	" " hired boilermaker - -	Chatham - -	11 9 5	4 Oct. 1883
Whittle, Elizabeth - -	" " fitter - -	Portsmouth - -	15 19 9	14 July 1876
Wild, Caroline - -	" " rigger - -	Chatham - -	10 - -	27 Oct. 1866
Williams, A. M. - -	" " hired skilled labourer - -	Portsmouth - -	10 - -	18 Aug. 1892
Williams, Mary - -	" " ditto - -	Devonport - -	10 - -	29 Jan. "
Williams, Mary A. - -	" " shipwright - -	Keyham - -	12 - -	13 Sept. 1858
Wills, Jane R. - -	" " ditto - -	Devonport - -	13 - 8	11 Mar. 1888
Wood, Sarah L. - -	" " stoker, yard craft - -	Sheerness - -	12 - -	27 Dec. 1886
Woodger, Emma - -	" " skilled labourer - -	Chatham - -	10 - -	8 May 1879
Woolacott, Mary - -	" " rigger - -	Devonport - -	12 - -	19 Dec. 1877

RETURN of PENSIONS and GRATUITIES awarded to Relatives of Persons Killed by Accidents
in Government (War Department) Factories between 1850 and 1860 (inclusive).

Date.	Name.	Description.	Award.	
			Pension.	Gratuity.
			£. s. d.	£. s. d.
1851	Butler, —	Widow	—	10 - -
"	Finnigan, —	Widow (Royal Engineer Department, Dublin)	—	10 - -
"	Finch, —	Widow (Royal Engineer Department)	—	45 - -
1852	O'Neill, —	Widow of clerk, Royal Engineer Department	—	60 - -
1853	Oran, —	Widow of bargemaster, Waltham Abbey	—	10 - -
1855	Adams, —	Widow of master worker, Waltham Abbey	—	30 - -
"	Gordon, —	Widow	10 - -	—
"	Lee, —	Widow of sergeant killed at Shoeburyness	10 - -	—
"	Rose, —	Ditto - - - ditto	10 - -	—
"	Ward, —	Widow of gunner, Royal Carriage Department	—	10 - -
1856	Bullock, Elizabeth	Widow of labourer, Royal Laboratory	26 - -	—
"	Wallace, Susan	Ditto - - - ditto	36 8 -	—
"	Skene, —	Daughter of foreman, Store Department, Tower.	—	10 - -
1857	Cooper, Eliza	Widow of carpenter, Royal Laboratory	52 - -	—
"	Gawden, Mary	Widow of labourer, Devonport	—	15 - -
1858	Hughes, Mary	Widow of smith, Royal Laboratory	—	10 - -
"	Russell, Sarah	Widow of smith, Royal Arsenal	—	10 - -
"	Walsh, Susan	Widow of sawyer, Royal Carriage Department	—	10 - -
1860	Coady, —	Widow of labourer, on floating magazine	—	25 - -
"	Smith, Eliza	Widow of labourer, Royal Gun Factory, Woolwich.	—	10 - -

N.B.—The records for the period from 1850 to 1860 being imperfect, the completeness of the above return cannot be guaranteed.

RETURN OF PENSIONS AND GRATUITIES awarded to Relatives of Persons Killed by Accidents in Government (War Department) Factories between 1888 and 1894.

NAME.	Description.	Cause of Death.	Amount awarded.	REMARKS.
PENSIONS:				
Durant, Ellen	Widow of labourer, Royal Gun Factory	Result of injury on duty	£. s. d. 10 - -	
Maynard, Emma	" granulating houseman, Royal Gunpowder Factory	Explosion of gunpowder	10 11 6	
Napthen, Elizabeth	" junior foreman, Royal Gunpowder Factory	- ditto - - ditto	12 9 9	
Barber, Annie	" beltman, Royal Gun Factory	Result of injury on duty	11 14 3	
Smith, Ellen	" skilled labourer, Royal Laboratory	Explosion of detonators	15 - -	
Massey, Sarah Elizabeth	" " Royal Gunpowder Factory	Explosion of gunpowder	10 - -	
Suckling, Annie Eleanor	" factory foreman, Royal Gunpowder Factory	Explosion at nitro-glycerine factory	14 7 2	
Frost, Elizabeth	" danger-house man, Royal Gunpowder Factory	- - ditto - - ditto	10 6 11	
GRATUITIES:				
Durant, Ellen	Widow of labourer, Royal Gun Factory	Result of injury on duty	20 16 -	Gratuity on behalf of the two children.
Maynard, Emma	" granulating houseman, Royal Gunpowder Factory	Explosion of gunpowder	35 - -	" " four children.
Napthen, Elizabeth	" junior foreman, Royal Gunpowder Factory	- ditto - - ditto	10 - -	" " child.
Child, Charlotte Julia	" fitter, Royal Gun Factory	Result of injury on duty	46 19 -	
Hare, Emma	Mother of unskilled labourer, Royal Gunpowder Factory	Explosion of gunpowder	24 7 -	
Massey, Sarah Elizabeth	Widow of skilled labourer, Royal Gunpowder Factory	- ditto - - ditto	14 - -	Gratuity on behalf of the child.
Rutkin, Ellen Jane	- ditto - - ditto	- ditto - - ditto	29 15 11	25l. 10s. 10d. to widow, and 4l. 5s. 1d. on behalf of the child.
Ingram, Agnes	Widow of foreman of plumbers, Royal Gunpowder Factory	Explosion at nitro-glycerine factory	127 19 10	76l. 15s. 11d. to widow, and 51l. 3s. 11d. on behalf of the four children.
Suckling, Annie Eleanor	" factory foreman, Royal Gunpowder Factory	- - ditto - - ditto	10 - -	Gratuity on behalf of the child.
Frost, Elizabeth	" danger-house man, Royal Gunpowder Factory	- - ditto - - ditto	17 - -	" " two children.
Clarke, Sarah M.	" labourer, Building Works Department	Result of injury on duty	53 10 10	26l. 15s. 5d. to widow, and 26l. 15s. 5d. on behalf of the children.

RETURN of PENSIONS in course of Payment on 1st July 1894 to Relatives of Persons
Killed by Accidents in Government (War Department) Factories.

Name.	Description.	Amount.	Date of commencement of Pension.
Baker, Mary Ann - - - -	Widow of labourer, Royal Laboratory - - - -	£. s. d. 12 - -	25 Jan. 1874
Barber, Annie - - - -	„ beltman, Royal Gun Factory - - - -	11 14 3	27 Nov. 1891
Barnard, Sarah Ann - - - -	„ stoker, Royal Gunpowder Factory - - - -	10 - -	8 May 1878
Berry, Daisy Grace - - - -	Children of labourer, Royal Gun Factory - - - -	{ 2 - - }	19 May 1887
Berry, Henry George - - - -		{ 2 - - }	
Berry, Lawrence Charles - - - -		{ 2 - - }	
Brown, Emma - - - -	Widow of labourer, Royal Small Arms Factory - - - -	10 - -	20 Feb. 1881
Bullock, Elizabeth - - - -	„ labourer, Royal Laboratory - - - -	26 - -	28 May 1856
Butter, Elizabeth - - - -	„ labourer, „ „ - - - -	36 8 -	18 Sept. 1845
Castles, Isabella - - - -	„ boiler-maker, Royal Laboratory - - - -	10 11 3	7 May 1875
Durant, Ellen - - - -	„ labourer, Royal Gun Factory - - - -	10 - -	13 Feb. 1889
Ellard, Mary Ann - - - -	„ labourer, „ „ - - - -	10 - -	15 Dec. 1880
Frost, Elizabeth - - - -	„ danger-house man, Royal Gunpowder Factory	10 6 11	8 May 1894
Hilton, Mary Ann - - - -	„ stoker, Royal Gunpowder Factory - - - -	10 6 3	16 Mar. 1883
Jones, Ann Elizabeth - - - -	„ painter, Royal Laboratory - - - -	10 - -	6 Jan. 1883
Luck, Eliza - - - -	„ house-man, Royal Gunpowder Factory - - - -	20 16 -	13 April 1843
McCarthy, Margaret - - - -	„ labourer, Royal Gun Factory - - - -	15 - -	17 Sept. 1867
Mackie, Elizabeth - - - -	„ „ Royal Carriage Department - - - -	13 5 9	9 July 1878
Massey, Sarah Elizabeth - - - -	„ skilled labourer, Royal Gunpowder Factory - - - -	10 - -	14 Dec. 1893
Maynard, Emma - - - -	„ granulating house-man, Royal Gunpowder Factory.	10 11 6	23 Aug. 1890
Moriarty, Ellen - - - -	„ labourer, Royal Gun Factory - - - -	12 - -	18 July 1886
Napthen, Elizabeth - - - -	„ junior foreman, Royal Gunpowder Factory - - - -	12 9 9	23 Aug. 1890
Randall, Elizabeth - - - -	„ artificer, Royal Small Arms Factory - - - -	12 - -	15 Jan. 1874
Reeves, Susan - - - -	„ chief foreman, Royal Gunpowder Factory - - - -	25 14 4	14 Dec. 1883
Storey, Sarah - - - -	„ leading hand, Royal Gun Factory - - - -	10 - -	12 Aug. 1887
Suckling, Annie Eleanor - - - -	„ factory foreman, Royal Gunpowder Factory - - - -	14 7 2	8 May 1894
Tatt, Matilda Rebecca - - - -	„ labourer, Royal Carriage Department - - - -	10 - -	4 July 1880
Wallace, Susan - - - -	„ labourer, Royal Laboratory - - - -	36 8 -	1 April 1856
Walstow, Priscilla - - - -	„ „ „ - - - -	14 5 6	26 May 1875
Ward, Jessie - - - -	„ millman, Royal Gunpowder Factory - - - -	20 - -	18 June 1870
Wilson, Miriam - - - -	„ „ „ - - - -	20 - -	17 June 1870
Young, Constance - - - -	„ labourer, Royal Laboratory - - - -	20 6 8	25 May. 1875

- (1.) RETURN of PENSIONS and GRATUITIES awarded to Relatives of Persons Killed by ACCIDENTS in GOVERNMENT (POST OFFICE) FACTORIES between 1850 and 1860 (inclusive).
 - (2.) Similar Return for 1888-94 ; and also
 - (3.) Return of Persons now in receipt of Pensions and Gratuities from same causes, stating Amounts and Dates of Commencement.
-

(Nil.)

GOVERNMENT FACTORIES (PENSIONS
AND GRATUITIES).

RETURN of PENSIONS and GRATUITIES paid to Relatives of Persons Killed by ACCIDENTS in GOVERNMENT FACTORIES between 1850 and 1860 (inclusive), and a similar Return for the Years 1888-94 ; and also a Return of Persons now in receipt of Pensions and Gratuities from same causes, stating Amounts and Dates of Commencement.

(Colonel Lockwood.)

Ordered, by The House of Commons, to be Printed,
22 August 1894.

[Price 1½d.]

TRANSIT BY WATER OF ANIMALS CARRIED COASTWISE, &c.

R E P O R T

OF

THE DEPARTMENTAL COMMITTEE

APPOINTED BY

THE BOARD OF AGRICULTURE

TO INQUIRE INTO THE

TRANSIT BY WATER AND THE EMBARKATION AND
LANDING OF ANIMALS CARRIED COASTWISE,

WITH

A. Copy of the Minute appointing the Committee.

Presented to both Houses of Parliament by Command of Her Majesty.



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COPY OF THE MINUTE APPOINTING THE COMMITTEE.

The Board propose that a Departmental Committee be appointed to inquire and report whether any, and, if so, what amendments can with advantage be made in the regulations now in force under the provisions of the Contagious Diseases (Animals) Acts with regard to the transit by water and the embarkation and landing of animals carried coastwise.

The Board further propose that the Committee consist of the following gentlemen, viz. :—

Sir Charles Cameron, Bart., M.P., Chairman.

Sir W. S. B. Kaye, C.B., Q.C.

Mr. Alfred Booth.

Mr. Hugh Cullen.

Mr. W. Field, M.P.

Mr. J. Parker Smith, M.P.

Major John Trenchard Tennant.

Mr. Ingram B. Walker.

Mr. William Watson.

The Lords Commissioners of Her Majesty's Treasury have sanctioned an expenditure not exceeding 400*l.* in connexion with the proposed Committee.

Mr. Ernest George Haygarth Brown will act as the Secretary to the Committee.

Approved and ordered.

(Signed) HERBERT GARDNER,
President.

Board of Agriculture,
8th March 1894.

REPORT.

To the Right Hon. HERBERT GARDNER, M.P., PRESIDENT of the BOARD of AGRICULTURE.

SIR,

UNDER the remit of the Board of Agriculture dated 8th March 1894, your Committee was appointed "to inquire and report whether any, and if so, what amendments can "with advantage be made in the regulations now in force under the provisions of "the Contagious Diseases (Animals) Acts, with regard to the transit by water and "the embarkation and landing of animals carried coastwise."

The Remit.

As the words of the remit do not exclude amendments in the regulations for which extended powers may be necessary, we have not considered ourselves debarred from considering such amendments, even in cases where legislation may be necessary to give them effect, and in interpreting the words "embarkation and landing," we have dealt with the remit as including the treatment of animals at the port of embarkation and after landing at the port of debarkation. We have also considered it our duty to deal with a few matters which appeared intimately connected with the objects of our inquiry, although in strictness they might perhaps be considered to belong more immediately to the general law for the prevention of cruelty to animals.

Construct'on
put upon
Remit.

In the course of our inquiry we devoted 10 sittings to the examination of witnesses, of whom we examined 34.

Witnesses.

Of these witnesses eight were officials connected with the Government Departments concerned in the questions remitted to us, namely, the Board of Agriculture, the Veterinary Department of the Irish Privy Council, and the Board of Trade; 10 were cattle dealers, butchers, and others engaged in the cattle trade; nine were shipowners or managers interested in the cattle-carrying trade; three were members or officers of local administrative bodies; two represented the Society for the Prevention of Cruelty to Animals; one was a foreman bullockman; and one a marine salvage surveyor of large experience in connexion with claims against insurance companies for losses on insured cattle.

The cattle-dealing and shipowning witnesses in many cases had been delegated to lay before the Committee the views of important associations, and among the witnesses were several veterinary surgeons and practical seamen.

Case put
forward by
cattle dealers.

The case presented to the Committee by the cattle dealers and butchers, and by the witnesses representing the Society for the Prevention of Cruelty to Animals, was that the treatment to which live stock imported into Great Britain from Irish ports are subject in the course of shipment, on board ship, and in unshipment, is such as to call for legislative interference (directly or indirectly through a Government Department), to prevent the serious amount of deterioration in value which, as they allege, results in consequence of it, and to save the animals from the suffering which the causes of that deterioration (bruises, starvation, insufficient ventilation, &c.) imply.

The case presented by the shipowning witnesses, on the other hand, was that the conditions and regulations under which the trade is at present carried on are amply sufficient to secure the safe and humane treatment of animals during the sea journey, and that further restrictions are not required, and would be vexatious and injurious to trade.

Case put
forward by
shipowners.

In order to understand the case for and against further Government interference, your Committee think it well, before proceeding to state the conclusions at which they have arrived, to explain and sum up the evidence given on the one side and the other.

THE CASE FOR THE INQUIRY.

According to official statistics the number of cattle imported by Great Britain from Ireland during 1893 was 688,669, of sheep 1,107,960, and of pigs 456,571. Of the cattle over 263,000, or nearly 39 per cent. of the entire import, were taken by Liverpool. On behalf of the Liverpool butchers and cattle salesmen, it is alleged that the Irish cattle received at that port are deteriorated in transit to an extent which they estimate at an average of 10s. per head, or a total of over 131,000l. per year.

Appendix 8.
Estimate of
deterioration
in Irish
cattle in
transit.
Davies,
1066-67.

Appendix 9.
(1.) Brechin,
1881-83.
(2.) Leishman,
1567.
(3.) McCall,
2662.
Nelson,
3219-21.

Glasgow comes next as a cattle-importing port, the number imported in 1893 being 163,937. The deterioration on these cattle caused by the transit was stated by one witness at 20s. to 28s. per beast; by a second at 15s. to 21s.; by a third at 20s. to 30s.; and by a fourth at 20s. Taking the lowest of these estimates, 15s., the loss on cattle imported through Glasgow last year would be over 120,000*l.*, while the average would make it over 180,000*l.* It thus appears that the depreciation as estimated by those concerned in buying and selling Irish cattle at the two chief ports of import in Great Britain is between 250,000*l.* and 310,000*l.* a year. The estimate thus arrived at does not include cattle dying during the voyage, nor cases of broken limbs necessitating immediate slaughter. It refers simply to the deterioration alleged to have been suffered by cattle presenting no outward marks of injury which have walked ashore and been brought to auction, or sent to the slaughter-house, or forwarded as store cattle in the usual way.

The complaint
of deterioration
is general.

That this complaint as to the deterioration of Irish cattle in transit is by no means confined to Liverpool and Glasgow is proved both by other witnesses and by communications received from numerous inland centres of population, and taking into consideration the fact that a large number of cattle reach this country through other ports, and that a similar though smaller deterioration is alleged to occur in the case of sheep and pigs, it is contended that from a purely economic point of view the loss involved through the deterioration of Irish live stock in transit to this country is sufficiently heavy to demand the interference of the Agricultural Departments on this and on the other side of the Channel.

Deterioration
of sheep and
swine.
Leishman,
1734.

Alleged Causes of the Deterioration.—The causes of the alleged deterioration in value referred to as stated to us may be divided into two classes, (1) bruises, and (2) general discoloration and deterioration of flesh, ascribed to want of rest, air, food, and water during the journey.

As to bruises, these include stick marks, bruises sustained in embarkation and debarkation, injuries from falls, and through slipping down and being trampled on on board ship.

Causes of
deterioration.
Brechin,
1886.
Leishman,
1682.
Wheatcroft,
2285.]

Stick marks.

Stick Marks.—Stick marks, according to the evidences of witnesses in the trade, are easily recognisable, and consist of blue lines and patches discoloured with extravasated blood. The extent to which the use of the stick enters into the Irish cattle trade may be best understood by following the evidence as to the treatment of the cattle from the Irish fair at which they are bought to the port of debarkation. Their treatment at some of the fairs, according to Mr. Hedley, F.R.C.V.S., and Chief Inspector of the Veterinary Department at Dublin Castle, is "simply brutal." There are no means of separating the different lots of cattle, and a stick is used, often a very heavy one, to get the heads of the beasts together, so that they will not break away. The stick is used for the purpose of keeping them together or of separating them, and the beasts, many of which have been driven long distances during the night, are kept standing huddled together during the fair. After that they are driven to the railway station, a process in which they receive more beating, "because the driver is paid so much for loading them, and "the more frequently he can go backwards and forwards the more money he can earn." The animal thus starts on his journey very often in an unfit condition, even for a train journey. Arrived at the end of the train journey, the story was taken up by Mr. Fleming, a bullockman of 41 years' experience on board ship, whose graphic narrative can be best given in his own words. After explaining how animals might get bruised at the fair in Ireland, Mr. Fleming went on to say:—"For instance, I "might go and buy 30, or 40, or 50 heifers, and have them sent to North Wall, "to the city of Dublin, and I telegraph the time they are to get there. Well, they are "met at the railway station, and the man says, 'Go down with those 50 heifers, you "and that fellow there.' These fellows have two sticks. They go down to the "railway, and they arrive at 9 o'clock in the morning. Somebody is there before "them, and they say they want three or four waggons, and somebody comes along and "says 'You take them cattle out of that.' 'You come and put them out yourself,' "says the fellows. Then they go to work, and they belabour each other's cattle, but "unfortunately the cattle get the whole of it. The man does not care a threepenny "bit so long as he gets half-a-crown."

Fleming's contention was that this preliminary treatment fully explained the stick marks found on the animals after slaughter, and that it was unjust to award the blame for them to those concerned with handling the animals on board ship. The cattle-dealing witnesses, however, contradicted him on this point. Mr. O'Connor, an Irish cattle dealer, declared that there was ten times as much stick used on board the boats

O'Connor,
3441.

Q. 654.

Irish cattle
are severely
beaten with
sticks at fairs
and railway
stations.

Q. 2452.

Q. 3442.]

as anywhere else. Several witnesses spoke to beatings with ropes and sticks in order to force the beasts up or down steep gangways and cattle ladders. Mr. Nelson recommended a form of gangway to obviate the necessity of the man at the shore end of a gangway using the stick to the extent necessary to give the bullock an impetus to carry him on to the other end of the gangway, where he would be under the control of another stick, as he says is now very often done. Finally, it is stated that the cattle are frequently landed promiscuously, and that a further process of beating has to be resorted to in order to separate the different consignments, or "draw them," as it is called.

They are also beaten on board and after landing
Kirkwood, 1826.
Q. 3137.
Q. 3419.

Bruises, Broken Ribs, &c.—Bruises of a character seriously affecting the value of the meat are said to occur during the process of shipping and unshipping cattle through the animals being forced against projections in gangways or angles of structures on deck, and through large and valuable animals bruising their backs against the combings of hatchways, in their descent to the lower part of the vessel by cattle ladders which do not allow sufficient headway. This, it is alleged, they can only be forced to do by cruel beatings and tail-twisting, and when they do push through, according to statements made to us, the most valuable portion of their flesh, the thick, roasting portions along the back, is frequently bruised to such an extent as to render it unsaleable.

Bruises are caused by forcing under combings and against projections.
Kirkwood, 1759.

The worst class of bruises, however, are described as those which occur through animals falling or lying down on shipboard and getting trampled on. To these causes are ascribed not only extensive bruises of the muscles, but broken ribs and hips, and laceration of the subcutaneous tissues which connect the skin to the subjacent fasciæ of the back, at times so extensive that when the beast, having been flayed along the legs and underportions, is slung up by the legs for the purpose of completing the operation, the skin, on being loosened round the tail, is described as dropping to the ground through its own weight. Thus Mr. Davies, ex-President of the Liverpool Butchers' Association, told us of a lot of seven bullocks so badly injured in this way that when they were hoisted, as described, in the process of flaying "as soon as the hide was loosened from the tail, cut off there, the hide simply flopped down to the floor, there not being sufficient left intact to hold the hide on the beast's back." These cattle had been landed on a Friday or Saturday, sold in the Liverpool Cattle Market on Monday, and slaughtered and flayed the same night. Again, Mr. Nelson, an extensive cattle salesman in Glasgow, declared that he had "hundreds and hundreds of times" himself seen, when cattle were partially flayed, the hides fall right off them owing to the bruises, and had often wondered how cattle could live and travel and stand the market in the condition which was revealed when the hide was taken off. As to broken ribs, Mr. Cassidy, an Irish dealer, who passed through his hands over 6,000 cattle per annum, put down the number of cases of broken ribs at between 100 and 150, and told the Committee that out of one lot of 20 fat cattle which he had sold, the purchaser complained that he found 10 of them with the ribs broken.

The worst bruises are caused by trampling.

Q. 1068-96.

Q. 3024.

Broken ribs are common.
Q. 3174.
Q. 3589-90, 3731.
See also Dwyer, 3778.
Henessey, 4171.

Bruises and injuries of the serious nature above described would naturally depreciate the value of cattle. The loss was set down by one witness in some cases at as much as 3*d.* per lb., and Mr. Kirkwood, ex-president of the Glasgow Fleshers' Society, after his examination sent the Committee a photograph representing two bullocks of the same weight, one in good condition and the other described as so badly bruised that about 56 lbs. of bruised meat had to be taken off in dressing it for sale, and this carcase realised 4*l.* 11*s.* less than the other on account of the damage, although the beast, when purchased, before injury was apparent, had cost 10*s.* more.

Appendix 10.

Store Cattle.—The injuries above detailed affect the value of store as well as fat cattle. In fact, in the opinion of Professor McCall, the depreciation of value incurred by store cattle is greater than in the case of cattle destined for immediate slaughter; and Mr. Nelson said:—"When we sell Irish cattle to the farmer he has first the liability that one or perhaps more of those cattle will succumb to the hidden bruises that exist in that animal at the time he buys it and of which neither buyer nor seller is aware. The next is the invariable rule that it will take three or four weeks before the animal gives the slightest sign of giving a return for the food and money that have been expended on it during the month." Consequently it is stated that cattle imported from the United States and Canada find a ready sale at better prices than Irish, both for slaughter and, when obtainable, for store purposes, although several witnesses assured us that Irish cattle would, from the quality of their flesh, be preferred both by butcher and farmer were it not for the bad condition in which they are landed. In addition to the injuries above described as affecting the value of fat cattle, other

Stores are said to be injured more than fat cattle
McCall, 2659.
Nelson, 3019.

See also Rooth, 2037.
McCall, 2663, 2816.

Nelson, 3016-18.

The value of store cattle is affected by

ammonia blindness, fractured horns, and broken tails. Cassidy, 3370. Dwyer, 3771, *et seq.* Fleming, 2443.

Want of water, fatigue, and bad air cause a fevered condition in cattle which spoils the meat. Brechin, 1386. Leishman, 1682. Whearcroft, 2285. Cassidy, 3628. Hedley, 654.

Fleming, 2460. Rooth, 1960.

McCall, 2675-77.

Cattle are frequently without food and water for considerable periods.

Q. 2844-45. Cassidy, 3635-38. Rooth, 1967. Q. 3976, 4101, *et seq.* See also Watson, 4594. Appendix 11.

Q. 5982.

Ventilation is defective.

MacIlwaine, 273. Scott, 750-1. Leishman, 17. Rooth, 2095. Whearcroft, 2273, 2306-19. Nelson, 3158. O'Connor, 2663. Leishman, 1714. Nelson, 3132-3. Dwyer, 3788. McCall, 2745. Hennessy, 4182-3. Nelson, 3202. O'Connor, 3355. Leishman, 1740. Q. 1082.

The case for interference summed up. Cassidy, 3642.

injuries were mentioned as affecting the condition of store cattle, such as temporary blindness, ascribed by the cattle dealers to the ammoniacal atmosphere in the hold. fractured horns, and tails broken through twisting having been resorted to as a means of "persuasion."

Hunger, Thirst, and Fatigue.—A second cause in the deterioration in value of Irish cattle in transit has been stated to be want of water, fatigue on the journey from the breeders to the British market, and want of sufficient ventilation when at sea. The combined effect of these, together with the mental excitement inseparable from strange surroundings, is said to bring about a "fevered" condition of the animal, manifesting itself in dry, sapless, and blackened flesh, which materially depreciates its market value. Many of the animals are sent from inland fairs to the port of embarkation. Some of them have been driven to the fair overnight, and are kept standing there during the day, it may be without food and water. When sold they are driven to the station and trucked, often already in a condition unfit even for the train journey. Arrived in Dublin, for example, a large number are brought down by rail, and some are driven across the town, to the shipping lairages, where it may be for the first time for 12 hours and upwards they have an opportunity of drinking and resting themselves, and if the owner or his agent cares to order forage for them, of getting food. Often the time between their arrival and embarkation is too short to allow of their being fully fed even when forage is provided, and in a large number of cases no forage is ordered, though water is always obtainable. The result is that the animals start on a further journey, extending it may be over 12 to 18 hours, during which they are without either food or water, and compelled to stand the whole time. When disembarked water is provided, under departmental regulations already in force, but the animals are so exhausted that if allowed access to it it is stated they would overdrink and injure themselves, and it is not till after they have been driven several miles across town to a dealers or railway lairage that they are given food, and then allowed to drink. This being so, as stated by Mr. Dwyer, cattle have frequently to do without water for 16 or 20 hours, and occasionally 36 or 40 hours without food, and in an extreme case, like that mentioned by Mr. Abraham, when a vessel has been detained by fog, they may find themselves unable to lie down and deprived of food and water for as much as 50 or 60 hours. Even when ample facilities are provided, as in the case of the cattle route from Ireland by the London and North-Western Railway Company from Dublin and Greenore to England via Holyhead, statistics supplied by Mr. Harrison, the manager, show that during the six months ending 31st March 1894, 44 $\frac{3}{4}$ per cent. of the cattle transported received no food at the port of shipment or of debarkation. These cattle were all brought by rail to Dublin and Greenore, and were often going long distances on the English side; and though the larger dealers were particular as to ordering the cattle to be fed, the smaller ones, according to Mr. Harrison, were not.

Defective Ventilation.—On the point of the alleged deficiency of ventilation in the holds of cattle ships, there was a very strong consensus of opinion among official witnesses and witnesses representing the trade. They told us that on going below among the cattle they had often been obliged to come on deck after a few minutes in consequence of the foulness of the atmosphere below. We were told of men working in the holds being obliged from time to time to come on deck "to get the smart out of their eyes," of cattle weeping from the eyes when landed, of cattle and sheep blinded by the fumes of ammonia in the hold, sometimes so seriously that it took them two or three weeks to recover, and of instances in which a number of cattle and sheep had been smothered. Independently of all consideration for the tortures which in such cases must have been suffered by the animals exposed to such an atmosphere, from the purely commercial point of view, prolonged insufficient ventilation of itself causes deterioration of the meat—so much so, that Mr. Leishman stated that a bullock stowed in the hold without sufficient ventilation for 24 hours would cut up black in the flesh, and would suffer a deterioration, roughly speaking, of 6s. per cwt.

The Case for Interference.—We have now completed our *resumé* of the case put forward for legislative and administrative interference, which may be summed up as follows: That the damage sustained by cattle in the transit from the farmer in Ireland to their destination in Great Britain is very serious; that the principal portion of that damage is due to their treatment during shipment, while on shipboard, and on debarkation; that the causes of that deterioration include the excessive use of the stick, especially in connexion with steep and unsuitable gangways and cattle ladders, want of proper drovers,

improper stowage, too large pens, want of passage-ways between the pens and of provision for feeding and watering the cattle when required, overcrowding, defective ventilation, and inefficient machinery for the enforcement of the existing law.

THE SHIPOWNERS' CASE.

The witnesses brought forward by the shipowners emphatically contradicted the foregoing case. Their evidence was to the effect that injuries or complaints of injuries to cattle in transit by sea have been very few, that the regulations of the Irish Privy Council and Board of Agriculture were sufficient, and that they were carried out. They pointed out that it was their interest in order to foster their trade to avoid as much as possible anything that would tend to damage the cattle carried, and Mr. J. D. O'Connor, of the Dublin and Glasgow Steam Packet Company, described the cruel treatment of the cattle at the Irish fair, and the pushing and jolting they experienced in getting trucked and on the railway journey to Dublin as sufficient to account for the various injuries alleged. They stated that wherever cruelty on the part of the drovers employed by them was brought to their knowledge they punished it by dismissal, and they gave detailed particulars of the maximum gradients of the gangways used in loading their ships, and of the cattle ladders with which they are fitted, as also of the headway between these ladders and the deck combings, and between the decks on which the cattle were stowed, which disproved certain statements made on the other side, at least so far as ships of the lines represented before your Committee were concerned. They stated that no pressure was brought upon them by dealers for improved accommodation, but only for reduced rates, and that there was very keen competition which wholly took the form of reducing rates.

Statistics of Injury.—As to the amount of injury sustained on the sea transit, they placed before us some statistics which it may be well to quote in detail. On the City of Dublin Line, of the total number of cattle carried during 1891, 1892, and 1893, only one in 2,582 was killed and one in 2,131 injured on the passage, and if the three exceptionally stormy days of November last are excluded, only one animal was killed in 5,745, and one injured in 7,067. On that line the freight for animals carried “at company’s risk” covers all carriers’ risks, and the total claims paid on cattle shipped at this rate during the three years, excluding those arising out of the storms of November 16, 17, and 18, 1893, amounted to but 297*l.* 13*s.* 6*d.* On the Drogheda Steam Packet Company out of a total of 157,439 cattle, 157,157 sheep, 116,265 lambs, 88,195 pigs, and 876 horses carried during the same three years, only two cattle, two lambs, and two pigs died on board, and there were only a few small claims for damages, alleged to have taken place at unloading. On the Dublin and Glasgow Steam Packet Company the number of cattle carried in 1893 was 38,025, and the losses three killed and seven injured, or in all one beast in 3,800. Finally, Mr. Harrison, general manager of the London and North-Western Railway Company, informed the Committee that during the six months ending March 31st, 1893, the proportion of killed and injured, including broken horns, lamings, and any injury however trifling, was one in 1,430, and that during the six months ending March 31st, 1894, including the tempestuous November of last year, the proportion of killed and injured was one in 870. Mr. Harrison further stated that cattle brought from Ireland to Liverpool by sea by competing lines and consigned to the London and North-Western Railway Company at that port for transport inland are, as a rule, handed over in a condition that is all that can be desired.

Ventilation.—As to ventilation each of the ship-owning witnesses maintained its sufficiency on the vessels of his own line. They stated that until they read the evidence of the cattle-trade witnesses they had never heard of the occurrence of ammonia blindness, and the one gentleman among them who appeared to have had his attention drawn to the occasional occurrence of blindness, ascribed it to the great extent of lime-washing on board ship, which may injure the cattle’s eyes. As to the proper method of ship ventilation, however, the experience of ship-owning witnesses was so diverse as to convince the Committee of the practical difficulty of the subject. In the City of Dublin Line the ventilation is purely automatic, *i.e.*, by means of hatchways, cowls, and windsails. Mr. Watson, a managing director of the company, expressed disapproval of mechanical ventilation. Captain Branigan, of the Drogheda Steam Packet Company, told us that his company had tried a ventilating fan, but found it inoperative, and had to take it out. In the Dublin and Glasgow Line, according to Mr. O’Connor, mechanical ventilation of different descriptions is used in all the vessels. Mr. Burns told us that in

The case for the shipowners.
Watson, 4398.

Q. 4817.

Burns, 5060,
5118.

Shipowners’ statistics as to injury of cattle in transit.
Watson, 4300.

Q. 4304.

Branigan, 476J.
Q. 4827.

Q. 5923.

Q. 5921.

Q. 5990.

Q. 6091.

Q. 6200.

Evidence of shipowners as to ventilation.

Diversity of experience as to ventilation

Q. 4374.

Q. 4381.

Q. 4850-51.

Q. 4989.

Q. 4992.
Q. 4996.
Q. 5003.
Q. 5004.
Q. 5370-71.

his line (Belfast to Glasgow, Ardrossan, &c.) they had, in addition to automatic ventilation, introduced into all their ships Root's blowers, which enabled them to inject into the hold 1,500 cubic feet per minute, that they found it of great use when the vessel was being loaded or steaming slowly up river, and that in their six or seven years' experience of it it had never gone wrong. On the other hand, Mr. Guthbert, of the Clyde Shipping Company, said that his line had tried the Root's blower 10 or 12 years ago, and finding it unsatisfactory, had given it up, and that since then, by improving the automatic ventilation they had made it thoroughly efficient. In the Laird Line they had tried Root's blower, but have discarded it for the induced draught system of ventilation patented by Messrs. Andrew and M'Kinnell, under which they calculate that they renew the air in the hold in 3 hours and 26 minutes, and which was working satisfactorily. Finally, in the vessels belonging to the London and North-Western Railway Company automatic ventilation is supplemented by "a shaft" running the whole length of the hold with perforated intakes at regular intervals "communicating with the ship's funnels, so that the upward draft in the funnel may "draw away the foul air through the perforated apertures"—an arrangement which is described as at once efficacious and satisfactory.

Q. 5373.
Turnbull, 5731.

Harrison, 5927.

MacIlwaine,
320.

The ship-
owners' case
summed up.

"Sufficiency" of Ventilation.—According to the regulations at present in force, cattle-carrying ships must have "sufficient" provision for ventilation, but no definition of sufficiency has been laid down. An official witness told us that among shipowners themselves the current of opinion was tending in favour of mechanical ventilation of one kind or another as an adjunct of automatic ventilation by means of cowls, wind-sails, &c., and that almost every new vessel which he was called on to survey was provided with mechanical ventilation in one form or another.

The Shipowners' Case.—The case put forward on behalf of the shipowners may be summarised as consisting of a denial that the animals carried from Ireland to Great Britain sustained any damage in transit beyond what was due to accidents unavoidable on board ship. They gave evidence to the effect that the orders at present in force were amply sufficient to ensure the proper treatment of cattle in transit carried coastwise, and that the manner in which they are enforced left nothing to be desired, and they deprecated further interference as prejudicial and uncalled for.

SUGGESTIONS AND RECOMMENDATIONS.

The amount
of injury
sustained
during sea
transit is
sufficient to
call for
Government
interference.

Breechin, 1454.
Q. 2195,
et seq.

Your Committee, while giving every credit to the shipowning witnesses for the straightforward and intelligent manner in which their evidence was given, and while attaching every weight to their arguments as to the undesirable nature of any restriction that can be avoided, cannot accept their view that no deterioration in the value of cattle in the course of the transit from the Irish breeding grounds to British ports occurs during the sea journey. The animals doubtless often receive very cruel treatment at fairs, and are much knocked about in the trucks in which they are brought to the port of embarkation, but evidence was given by various expert and intelligent witnesses to the fact that, having inspected carcasses in Dublin with a view to their comparison with the carcasses of Irish cattle slaughtered in Glasgow, they had not found them to present the same bruised condition. Several cases of extensive loss of life and injury among cattle cargoes were brought under the notice of the Committee, but in so far as these occurred through exceptional storms, occurrences affecting the safety of passengers as well as cattle, your Committee have only considered them in connexion with special incidents bearing on the subject of our inquiry which transpired in connexion with them. The number of casualties resulting in death or visible injury as disclosed by the statistics submitted to us was small, but without attempting too closely to apportion the responsibility for the hidden injuries disclosed between the different portions of the journey from the stock farm to the market, it seems clear to the Committee that the amount sustained in that portion of the journey which falls within the remit to us is sufficient to call for further interference at the hands of the Departments concerned. On both sides self interest has been appealed to. It is clearly the interest of the shipper to prevent his cattle from being beaten, overdriven, and starved in transit, and it is clearly the interest of the railway manager or shipowner to maintain the reputation of his company or line as one on which cattle are well and safely carried. But, unfortunately, in the course of the journey, cattle come into the hands of a number of people whose pecuniary interest in the matter is not so evident, and occasions arise when the desire to overtake a press of traffic or to make inadequate rates pay (not to speak of carelessness and insufficient supervision) may evoke

another form of self interest antagonistic to the well-being of the animals carried, and too often entailing on them cruel consequences, which, without injury to the traffic, have been practically eliminated from the Atlantic cattle trade.

THE PRESENT SYSTEM.

The sea transit of cattle from Ireland is controlled, so far as Ireland is concerned, by the Veterinary Department of the Irish Privy Council. In order to ensure that cattle-carrying ships have the structural requirements laid down by Orders in Council, such ships are surveyed and certified at the instance of the Irish Privy Council by officers of the Board of Trade, and the officers of the Department inspect cattle before loading, with a view to make sure that they are free from contagious disease, and supervise their embarkation. The object of the Department, which is carried out in great elaboration and detail, is, broadly speaking, to secure that the conditions of the traffic are compatible with the general well-being of the animals carried, and especially with the prevention of the spread of contagious diseases. As soon as the vessel sails supervision by the Irish Veterinary Department ceases, and when the vessels reach the British port of destination they come within the control of the Board of Agriculture. The British authority, on the other hand, does not make surveys or issue certificates, but lays down certain principles, imposes the responsibility for carrying them out upon the shipowners, and interferes only when interference seems to be called for by the condition in which the animals carried are landed after the voyage.

Control of Irish Privy Council over sea transit. Hedley, 539, 582.

Action of the Board of Agriculture as to sea transit. Tennant, 6297-8.

Such is briefly the existing system, and while it appears to be in most respects an excellent one, we think it may be improved, and with this view the following suggestions are made :—

CATTLE-CARRYING LICENCES.

As already stated, certificates in respect of the structural requirements of cattle-carrying ships as prescribed by the Irish Privy Council are given by the surveyors of the Board of Trade acting for the Irish Veterinary Department. These certificates are for 12 months, but there is no statutory power to compel ships to have certificates at all. Captain Sconce said that ships often carry cattle after the certificate has expired, and that there was no power to enforce penalties. We agree with him that this is a very unsatisfactory state of matters, and that if these certificates are to continue to exist they should be made effective for the purpose for which they are intended. The carrying of cattle, at all events in numbers beyond a low fixed maximum, without a certificate, or after expiration of certificate, should therefore be forbidden under a substantial penalty.

Certificates are issued on behalf of the Irish Privy Council, but cattle are carried without a certificate. Sconce, 770. Q. 817. Q. 761.

The authorities on this side do not at present endorse or officially recognise this certificate, and they consider that if they were formally to do so it would be held as an admission on their part of the sufficiency of the accommodation of each certificated ship, and would debar them from successfully prosecuting in cases where the state in which the cattle carried on their arrival within the jurisdiction of the Board of Agriculture seemed to call for such a step.

The Board of Agriculture do not endorse certificates. Tennant, 6374-5.

We would therefore make the following recommendations :—

- (1.) That in addition to the certificate at present issued after survey, arrangements should be made between the Board of Agriculture and the Irish Privy Council for the issue of licences; that any vessel carrying live stock between Ireland and British ports should require to hold that licence as a condition to engage or continue in the trade.
- (2.) That the licences should be issued as a matter of course, and without expense or delay, to every vessel holding the certificate of survey, and should remain in force, unless suspended, for the same period as that certificate.
- (3.) That the licensing authorities should have the right to suspend their licence for infraction of rules or pending the remedy of any defect which working or inspection might reveal, or when the reports of their inspectors on the state of the animals landed within their jurisdiction proved that the conditions under which they have been carried had not been such as to meet the requirements of the department.
- (4.) And that in order to enable the British and Irish departments effectually to co-operate in the regulation of the traffic, the two departments should be in close and frequent communication with each other on all matters of detail.

Proposals as to licensing of ships.

The result of such an arrangement would be to place in the hands of the departments concerned a further means which they at present lack of enforcing their requirements.

SURVEYS FOR CATTLE CERTIFICATES.

In connexion with the subject of cattle certificates, one of the shipowning witnesses complained of the inconvenience to which the owners of vessels registered at British ports were at present put by having to undergo two surveys, one at the port of registry by the Board of Trade for their passenger certificate, and the second at an Irish port by an officer of the same Board acting on behalf of the Irish Privy Council for their cattle certificate. It seems to us that this practical inconvenience might easily be remedied by the Irish Privy Council appointing a Board of Trade inspector at each of the principal ports on this side to act on their behalf in the matter of cattle survey.

IMPROVED INSPECTION.

In order to provide for the more effective enforcement of regulations issued by the Departments we recommend that Inspectors of the Board of Agriculture and of the Irish Privy Council should make frequent passages across the Channel in cattle-carrying ships, with the object of reporting to their respective departments on the sufficiency of the accommodation and ventilation provided for the animals on board, and as to any infraction of the regulations of the departments, and that more frequent inspections should be made by inspectors of the Board of Agriculture of such vessels and their cargoes at the port of landing, and we are of opinion that for this purpose the existing staff should if necessary be augmented.

REPORTS OF CASUALTIES.

We further recommend that the owners of every cattle-carrying vessel should be required, say once every month, to report to the Board of Agriculture all casualties which have occurred during that month to live stock carried on such vessel; that the casualties reported on should include deaths, stating apparent cause, broken limbs, and other serious injuries, and cases of labour occurring among the animals on board; and that in the case of an exceptional number of casualties occurring on any voyage the fact should at once be notified to the board, with shipowner's remarks and explanations, so that if the board deem action necessary immediate steps may be taken. In addition to this we recommend that cattle traders, officers of the Society for the Prevention of Cruelty to Animals, and other persons interested, should be invited to lay before the Board any complaints as to injuries to stock received during transit.

FRESH REGULATIONS.

We recommend the adoption as regulations applicable to the Irish Cattle Trade of the following regulations at present in force under Article 47 of the Foreign Animals Order of 1893 (No. 5120), in the case of Transatlantic vessels carrying cattle:—

“The staunchions of each pen shall be securely fastened to the deck by means of iron sockets or otherwise, and the materials used in the construction of the pens, whether of timber or iron, shall be of a substantial character, and of sufficient strength and so adjusted as to withstand the action of the weather and resist the weight of the cattle thrown against them.” (Regulation B (v.), Article 47.)

“Proper and suitable arrangements shall be made to provide at all times adequate light for the proper tending of cattle.” (Regulation F (xi.), Article 47.)

“In case of cattle suffering from broken limbs or other serious injuries during the voyage, the master shall cause such cattle to be forthwith slaughtered.” (Regulation K (xv.), Article 47.)

The object of these regulations is self-evident, and with regard to that relating to the slaughtering of injured animals, the urgent necessity for such an Order was made evident by a number of witnesses.

We further recommend that another regulation should be issued to the effect that ships' fittings likely to cause injury to animals brought in contact with them should be properly and permanently fenced off from the pens.

Article II. of the Atlantic Regulations provides that “every head of cattle shall be securely tied by the head so as to stand athwart-ship.”

In the view of the practice of shipping store cattle in bulk, which is generally adopted, and the evidence given in favour of the practice, your Committee would not advise the adoption of this regulation *in toto*, but recommend that all fat cattle shall be securely tied by the head.

VENTILATION.

The difficulties connected with the sufficient ventilation of holds crowded with cattle can be best understood by recollecting that when the height of the hold is 6 feet there is only some 18 inches of free space between the deck and the bodies of the cattle. Although the space is divided into pens of the prescribed size, the animals may be very tightly packed. Under such circumstances, or even where cattle are only moderately crowded together, the bodies of the animals constitute a barrier practically dividing the air-space in which they stand from that which is available for breathing purposes; and when that air is free to mingle with the upper stratum it soon becomes so contaminated by ammonia from the urine and droppings of the animals as to pollute rather than improve the respirable air above. One shipping witness stated that his company some time ago took out a table showing the number of cattle carried on different voyages and from different ports, with the amount of accommodation on board, and in some cases it showed 18 square feet and in others 14 square feet per head. Assuming the hold to be 6 feet high, this would allow only from 84 to 108 cubic feet of air space per animal. From that very limited air space there must be subtracted the 20 or 25 cubic feet occupied by the body of the animal, which would reduce the total amount of air space per head to from 60 to 80 cubic feet. In a crowded hold, where the 18 inches of air space above the bodies of the cattle was alone practically available for respiration, it would allow only 21 to 27 cubic feet of air space per bullock for respiration and unimpeded ventilation. This being so, one can easily understand that unless this air is constantly and rapidly renewed, it must become vitiated to a very deleterious and even fatal extent. When there is a good wind blowing, or when the ship is steaming rapidly through still air, this is easily accomplished by means of cowls and windsails communicating with the hold by means of efficient ventilating shafts. But when there is a following wind travelling at the same rate as the ship, or when the vessel is stationary, or nearly so, in a calm or fog, it would at first sight appear that without supplementary mechanical ventilation by means of fans or blowers or induced draft of some kind or other, the available air must be respired again and again in a manner at once directly injurious to the condition of the beasts and in the highest degree calculated to favour the dissemination of germ-born diseases among the store animals. The opinion and practice among the different lines, however, are shown to be very various, and on the whole we are not prepared to make any recommendation as to the details of ventilation, which might hamper shipowners in their efforts to improve it, and would diminish their responsibility in the matter, but we think it desirable to express our opinion that well considered mechanical ventilation of a suitable kind would greatly increase the assurance of securing sufficient ventilation at all times. In the regulations issued by the Canadian Government respecting the shipping of live-stock from that colony it is provided that "each compartment containing cattle must have at least four bell-mouthed ventilators of not less than 18 inches diameter inside, and with tops exceeding 7 feet in height, two situated at each end of the compartment, and must also be supplied with a sufficient number of fans, worked by steam, to provide good ventilation for the cattle." We would suggest the adoption of a standard based on the first portion of this regulation as a condition for the granting of certificates to cattle-carrying ships. This would establish a minimum provision for ventilation. But the ultimate test of sufficiency must in every case be the condition of the animals carried. The cruelty that may be inflicted on animals by insufficient ventilation, and the damage they may sustain through it, have been sufficiently dwelt upon. Sufficient ventilation should be enforced, and we believe that our recommendations as to the compulsory licensing of cattle-ships would place in the hands of the Government Departments in England and Ireland respectively the means of peremptorily dealing with the evil, which the reports of travelling inspectors and of casualties (if our recommendations on this head be adopted), would certainly bring under their notice wherever it existed. Where it was shown to exist, by the inability of an inspector to stand the air which the cattle had to breathe, by the occurrence of ammonia blindness in the animals landed, or by their suffocation on board, the board would suspend its licence, and the ship in question would be debarred from carrying cattle until a *bonâ fide* effort had been made to remedy the insufficiency of ventilation disclosed;

Difficulty of providing sufficient ventilation.

Nelson, 3053-54.

Cuthbert, 5549.

O'Connor, 3469.

No recommendation as to details of ventilation.

A minimum of ventilation suggested.

On evidence of insufficient ventilation the licence should be suspended. McIlwaine, 279.

The Atlantic regulations as to ventilation should be applied to Irish trade.

To carry out the views thus explained we recommend the adoption for the Irish trade of the following regulations already in force in the Atlantic trade :—

- “ All enclosed portions of a vessel used for cattle shall be sufficiently ventilated (in addition to any ventilation obtained by means of hatchways) by cowls or other proper means for the admission of fresh air and the removal of foul air.” (Regulation E. (x.), Article 47.)
- “ And every such place shall be ventilated by means of separate inlet and outlet openings of such size and position as will secure a proper supply of air to the place in all states of the weather.” (Article 46 (iv).)

PASSAGES BETWEEN PENS.

Evidence for alley-ways.

Closely connected with the subject of ventilation, though not suggested by witnesses specially or principally with a view to it, is that of alley-ways or passages between the pens in which cattle are carried. The main object with which it was urged that the provision of such alley-ways should be insisted on was that easy access should be afforded to the cattle, so that a beast might at once be seen when down, and might be got up before mischief happened. It was also argued that by having alley-ways running fore and aft between every two tiers of pens access would be afforded for feeding and watering the cattle when necessary. On the other hand, it was objected that the introduction of these alley-ways would by so much diminish the cattle-carrying capacity of the vessel, that unless the cattle were tied with their heads towards the alley-way no advantage would be gained in watering or feeding them; that under the present arrangements cattle were sufficiently open to observation, and that in case of one or more getting down, even if alley-ways existed, it would be necessary to take down the dividing boards and remove some cattle in order to get them up.

Rooth, 1996.

Objections to alley-ways.

Watson, 4364-7, 4581-2.

Conclusion as to alley-ways.

Wheatcroft, 2279, 2339.

On consideration of the evidence, we cannot accept the view that cattle packed closely in a hold, tier beyond tier, and with a space of some 18 inches between their backs and the deck above, can be sufficiently under observation. Cases were cited in which animals had been trampled to death, and nothing was known of the accident until the ship arrived in port. Short of death, it has been shown that very cruel injuries may occur from this cause. In the Atlantic trade such alley-ways are insisted on. In the longer voyages in the Irish trade wherever feeding and watering have to be provided for they are already adopted, and in some of the short passage lines they are also to be found.

Suggested regulation as to alley-ways.

On the subject of compulsory tying up of store cattle, as has been said, we are not prepared to advise any interference, but for the reasons stated, and taking into consideration the importance of open spaces between the cattle pens in connexion with the ventilation of the lower portions of the ship, we recommend the adoption in the Irish trade of a regulation prescribing that in each 'tween deck and hold there shall be a passage-way from the hatchway to the furthest pen, the minimum width of which passage in any part shall not be less than 1 foot 6 inches free from obstruction.

In the case of vessels at present in the trade, as considerable structural alterations would be required in order to give effect to this recommendation, your Committee would suggest that a reasonable time, say three years, should be allowed to effect the change, and that an extension of that time might be granted on cause shown to the Irish Veterinary Department of the Irish Privy Council.

CATTLE PENS.

Reduction of size of pen suggested. MacIlwaine, 236. Davies, 1139. Appendix 12.

A large number of witnesses, official and trading, have recommended a reduction of the present limit of size of cattle-pens (15 feet $\times$ 9 feet), or the adoption of a restriction of the number of cattle carried in each pen. Extremest among the proposals for reform in this direction was that of Mr. Rooth, who suggested a system of fittings which the Committee have carefully considered but think too elaborate to be practicable. In the Atlantic trade the size of pens is (under an American regulation) restricted to 10 feet $\times$ 8 feet, while a British regulation exacts that not more than four cattle shall be carried in one pen, except where small store cattle are carried, in which case not more than five cattle shall be carried in each pen, and that sufficient space shall be allotted in every pen to enable the cattle to properly feed and rest during the voyage. (Regulation C. (viii.), Article 47.) The conditions of the Irish trade are so different that such a provision would be inapplicable in its case. But we consider that the present maximum

limit of 9 feet $\times$ 15 feet is too large, and that it would conduce to the stability of the fittings as well as the safer carrying of the cattle that the maximum length should be reduced from 15 feet to 10 feet. To allow this change to be effected with a minimum of inconvenience to the trade, we would make the same suggestion in connexion with it as has been made in connexion with the introduction of alley-ways, namely, that while the new size of pen should be insisted on in granting new certificates, a reasonable time, say three years, should be allowed to ships at present in the trade to make the change, and that after that date further extensions of time might be granted by the Veterinary Department of the Irish Privy Council on cause shown.

The present maximum is too large.

OVERCROWDING.

Under the present regulations, although provision is made against overcrowding of ships with live stock, no definite provision is made against the overcrowding of portions of ships or pens. Suggestions have been made to us that a standard of accommodation of so many superficial feet per beast should be prescribed, and cattle-ships like passenger vessels, licensed to carry only a stated number of animals. In view of the practical difficulties in the way of fixing such a standard, we do not see our way to proposing one, nor to adopting another suggestion as to fixing the maximum number of animals to be carried in each pen. Under the improved system of inspection which we have recommended, we think that the question of what constitutes overcrowding on board may be left to the discretion of inspectors if an addition be made to the regulation on the subject of words forbidding not only the overcrowding of a ship, but the overcrowding of any portion of such ship or any pen. We think the carriage of cattle in the lower hold ought to be as far as possible discouraged.

Overcrowding of pens should be prohibited.

Rooth, 2138.
J. O'Connor, 3412.

COMPULSORY INSURANCE.

It was strongly urged by the cattle traders that the carrying companies should be compelled to insure the animals carried by them against damages of every kind in conveyance, and it was contended that if this were done their interest would lead them to take greater precautions than at present against the injury of cattle in transit. As this is one of the points most strongly insisted on by the Irish Cattle Dealers' Association and kindred associations on this side the Channel, it may be useful to consider the matter at some length. At the present moment the practice in different companies is extremely varied. On some lines, as on that of Messrs. G. and J. Burns, cattle are only accepted for sea transit at the owner's risk. The Messrs. Burns admit no liability, and have never been asked to insure or to give rates which would cover liability. The Aberdeen Shipping Company at one time carried at company's risk, but many years ago, in connexion with a reduction of charges, they discarded this liability, and now carry only at owner's risk. They have, however, a floating policy with a marine insurance company, and under it if any of their clients desire to insure their cattle on the voyage they can do so on payment to that company of 6s. 8d. per cent. The City of Dublin Steam Packet Company and the London and North-Western Railway Company have two rates, one their ordinary rate covering all carrier's liability, and the other 9d. per bullock lower under which, at the owner's request, the animals are carried at his sole risk, a like system applying to sheep and pigs. That liability of course is limited to so much per beast, but in case of owner desiring to insure for higher values he can do so on declared value at so much per cent. In other lines, as, for example, the Dublin and Glasgow, while there are two rates, for cattle carried at owner's and company's risk respectively, the higher rate only covers the case of animals killed or permanently injured on board, so that they cannot walk ashore. In the boats of the Clyde Shipping Company (Cork, Waterford and Limerick to Glasgow) there were formerly two rates, the company carrying either at owner's or carrier's risk, but finding that while in fine weather cattle were shipped at owner's, in bad weather they were sent at company's risk, and that in the case of injured cattle carried at owner's risk they were constantly subjected to claims for compensation, they abolished the lower rate, and for years have made it compulsory that the animals carried should be insured, charging for insurance against death 13s. 4d. per cent., or against injury and death 1l. 13s. 4d. per cent. That insurance is described as covering broken ribs and other accidents which may not be revealed till after slaughter. In the Laird Line, while carrying only at owner's risk,

Compulsory insurance advocated by trade associations.

J. O'Connor, 3399.

The present practice as to insurance varies.

Q. 2949.
Q. 5050-51.

Q. 5618.

Q. 4427.
Q. 6006.

Q. 4857.

Q. 5354.
Q. 5356-7.
Q. 5359.

Q. 5708-9.

the company offers insurance against death, and injury to the extent that the animals are unable to walk ashore, and effects the insurance through Lloyds. It will thus be seen that the most diverse systems of insurance are in vogue, and that the so-called "walk ashore clause," which is denounced by the cattle traders as a fraud, is by no means universal, and that on the great lines between Dublin and Liverpool it does not exist. It is clear from the evidence, however, that whatever form of insurance is offered, shippers in the vast majority of cases prefer to accept the lower rate and take the risk themselves. The cattle dealers' contention that if the risks were compulsorily imposed on the carriers they would exercise more care is not supported by evidence or statistics. The London and Aberdeen Shipping Company, for example, is exceptionally careful of its cattle both before and after shipment, and Aberdeen beef commands the highest place in the London market, but that company takes no risk. The only item of evidence pointing to better treatment of cattle arising directly out of compulsory insurance was a statement of Mr. Cuthbert, of the Clyde Shipping Company, that as his line carry cattle at their own risk, they thought it proper that the owner should do his part in seeing that the cattle are fed, and that they do not give way during the voyage from want of food, and that they had accordingly made feeding at the owner's expense during the voyage an integral part of their contract. On the part of the lines which offer a choice of rates, evidence was given that in many cases there is no difference in the treatment of animals carried at owner's or company's risk, and that in the case of injury claims were urged even when the injured beasts had been shipped at owner's risk, which in the case of good customers it was often very difficult on grounds of policy to reject. Some statistical evidence bearing on this point was supplied by Mr. Harrison, general manager of the London and North-Western Railway Company. During two periods of six months, each, ending March 31st, 1893 and 1894 respectively, the number of horses carried by vessels belonging to his company was 4,367, and that of cattle 67,800. Of the horses one was killed and nine lamed or injured, or one in every 436 horses carried. Among the cattle 27 were killed and 88 lamed or injured (including as injuries 46 cases of broken horns), making in all 115 killed and injured, or one in 589. But, as appears from a supplementary letter sent in by Mr. Harrison, nearly all the horses carried (over 99 per cent. of them) are carried at company's risk, while less than 9 per cent. of the cattle are so carried. It may be urged that horses being more spirited and active than cattle are more apt to incur injuries, but, on the other hand, the provision made for the safe carrying is much greater than in the case of cattle, and the freight correspondingly higher. Your Committee endeavoured to ascertain what per-centage of the killed and injured cattle belonged to the cattle carried respectively at owner's and company's rate, but Mr. Harrison was unable to give any information on this point, and repeated his statement that the animals comprised in the two categories received precisely the same treatment on board, as the drovers who had to do with them did not know at what rate they had been shipped. Another fact bearing on the point may be mentioned, namely, that in the case of 14 animals smothered on board the "Olive," and landed dead, 12 had been insured, and the loss fell on Lloyds under the insurance arrangements made by the company. The evidence most strongly in favour of compulsory insurance was that of Mr. Hennessey, a large cattle salesman of Bristol, who said that in the case of lines trading to that port it had worked satisfactorily, but as he explained that it only concerned visible injuries, and that where an animal walked ashore fairly well no compensation would be paid, that only broken legs or broken horns in store cattle were paid for, it is apparent that the form of insurance described as working so satisfactorily at Bristol is practically the "walk ashore" system, so strongly denounced by the cattle-trade witnesses. Unless the legislature were not only to compel the assumption of all carrier's risks by the carrying company, but to forbid their re-insurance with Lloyds, it is clear that no additional motive for care could be impressed upon the carriers. At present in the case of companies offering the option of carriage at the fullest carrier's or at owner's risk, an overwhelming majority of shippers prefer to take the risk themselves and save the difference of rate. In cases where the carrying company refuses all risk, insurance can be effected with marine insurance companies. Under the circumstances it would require a very strong case in support of the improved treatment of animals which the advocates of compulsory insurance assume, to justify legislative interference with the existing freedom of contract, and the conclusion of the Committee is that no case has been made out. On lines where full carrier's risk is accepted when desired, it has not been shown that any enhanced care is secured, while it has been shown that in the vast majority of cases shippers, in selecting the lower non-insuring risk, act on the principle that any advantage which may accrue

Shippers generally prefer to take the risk.

Q. 5617.

Q. 5305.

No difference in treatment of insured and uninsured cattle.

Q. 5918.

Q. 5989.

Appendix 13.

Turnbull, 5893.

Arguments against compulsory insurance.

Q. 4201-2.

from the higher rate, including that of inevitable accidents, is not worth the additional cost which it entails. This conclusion is practically enforced on the one hand by the strong dissatisfaction expressed by those who demand compulsory insurance with the "walk ashore clause," as it is called, the system which excludes all but visible injuries from compensation, and on the other by the general impossibility of proving in what portion of the transit hidden injuries have been sustained, and consequently of fixing responsibility for them upon the owners of the ship.

CROSS-BATTENS AND LITTER.

A number of witnesses have urged that in order to afford cattle on board ship a proper foothold the decks on which they stand should be provided with cross-battens. It was argued that, except in the case of animals tied athwart-ships, the fore and aft battens at present provided are useless to prevent slipping, and that cross-battens were required (by a Canadian Order) in the Canadian trade. On the other hand it was urged that cross-battens would greatly interfere with the shipment of cargo, would render cleansing more difficult, and would prevent pigs and sheep from lying down in comfort. After careful consideration, we are not prepared to recommend the compulsory adoption of cross-battens, but would suggest that when store cattle are carried in bulk the deck enclosed within the pen should be strewn with litter, sand, or other proper substance in addition to the battens.

Evidence for cross-battens.

Harrison, 5915-8.

Evidence against cross-battens.

Conclusion.

DISHORNING.

Evidence was given to show that dishorned cattle travel more safely than horned beasts, but that, on the other hand, they are more difficult to tie up. A remarkable feature of the evidence was the absence of any general complaint as to the occurrence of injuries through goring to animals during sea transit, and the disadvantage of horned as compared with hornless cattle most prominently brought before the Committee was the liability of their horns to fracture. With a view of reducing the sufferings of cattle during transit we are of opinion that the dishorning of cattle should be encouraged, provided that the operation is carried out humanely and at an early age. We have referred to the subject of dishorning because it has been the subject of considerable evidence, but we do not feel justified in making any recommendation concerning it, especially as it does not seem to come properly within the terms of our remit.

No recommendation as to dishorning.

GANGWAYS.

With reference to the complaints as to gangways we would recommend that the veterinary inspector should have power to exercise control over them and the approaches thereto, and insist on gangways being used which in point of structure were not calculated to inflict bruises on cattle, and which by means of boards alongside or in some other manner would permit of drovers getting close to the animal to be driven instead of relying on the impetus of blows to propel it from one point to another distant one. Such gangways were described as being in use on the lines of Messrs. G. & J. Burns and the City of Dublin Steam Packet Company, and their general adoption would entail but a trifling expense. As to steepness, the evidence showed that the incline was in some cases excessive, and as the slope could in many instances be reduced or regulated by lengthening the gangway or moving one end of the ship some distance off the wharf, we would suggest that inspectors should be instructed wherever practicable to advise such means of lessening extreme gradients, and that the forcing of cattle up or down gangways so steep as to endanger their safety or necessitate cruelty in driving should be forbidden.

Inspectors should regulate construction and angles of gangways.
Davies, 1062.

Burns, 5026.

CATTLE LADDERS, &c.

The following table shows the gradients and measurements of the cattle ladders, the head space between them and the combings of the hatchway, and the height between decks in five cattle-ships, the plans of which were submitted to your Committee.

Name of Vessel and Owner.	Length of Cattle Ladder.	Angle of Cattle Ladder.	Headway under Combings.	Height of Main Deck.	Height of Hold.
	Ft. In.		Ft. In.	Ft. In.	Ft. In.
S.S. "Arranmore" (Clyde Shipping Co.).	{ Tween-decks 19 6	23° 0'	5 6	7 6	6 3
S.S. "Dromedary" (G. & J. Burns).	{ Hold - 16 9	22° 0'	5 3	—	—
	- 13 10	32° 0'	6 0	6 10	—
S.S. "Inistrahull" (Clyde Shipping Co.).	{ Tween-decks 17 9	25° 0'	5 5	7 0	7 3
S.S. "Olga" (London & North-Western Railway Co.).	{ Hold - 17 3	24° 0'	5 6	—	—
	- 15 0	22° 0'	4 10	6 0	—
S.S. "Olive" (Laird & Co.).	{ Fore hatch - 15 2	32° 54'	5 1	6 8	—
	{ After hatch - 14 2	32° 34'	5 8	—	—

A maximum gradient and minimum headway should be enforced.

While recognising that it would not be desirable to enforce any minimum figures involving structural alterations as a condition of a licence for vessels presently engaged in the trade, your Committee would suggest that maximum gradients of cattle ladders and minimum headway between them and combings of hatchways, based on the best arranged gradients and headways found at present in use, should be adopted by the Irish Veterinary Department as the condition of a cattle certificate in the case of all vessels hereafter licensed for the trade.

CATTLEMEN.

Davies, 1133.
Leishman,
1665-7.
Cuthbert, 5336.

A considerable amount of evidence was laid before your Committee to the effect that every ship carrying cattle should carry cattlemen to look after them on the voyage. In many lines this is already done, although, it is alleged, in the majority of cases to an insufficient extent. In certain of the longer voyage lines, however, no drovers are carried, and the care of the cattle on board is relegated to the crew of the ship. In most, if not in all the lines, free passages are granted to drovers in the employ of shippers accompanying cattle, and on behalf of the shipowners it was contended that it was upon these private drovers that the care of the cattle should properly devolve. Against this it was urged by the cattle dealers that it was practically useless, so far as the sea voyage was concerned, for them to send drovers with the cattle; that in rough weather they were sea-sick, that when out of control they were, as a class, unreliable and unsteady, and that at best they were practically powerless to secure attention to their wishes on board ship. Having carefully considered the evidence, and noting the fact that in some of the best lines shipowners, while granting free passes for private drovers, deem it necessary to carry cattlemen of their own, your Committee recommend that there shall be employed by the owners in each cattle-carrying vessel, in addition to the ordinary crew, a sufficient number of skilled cattlemen to attend to all the live stock on board.

A sufficient number of cattlemen should be provided by shipowners.
O'Connor,
3524.

DROVERS.

Drovers should be licensed.
Landon, 36.
Davies, 1152.

With a view to the more humane treatment of the animals prior to shipment and after debarkation, we recommend that all cattle drovers plying for hire at the principal ports of export and import should be licensed by the local authority. In Glasgow such a licence is at present insisted on by the municipal authorities, but your Committee consider that for the purposes of our inquiry such licence would be better granted by the local authority under the Contagious Diseases (Animals) Acts.

THE STICK.

A regulation goad should be used.
Colam,
6989-95.

The evidence laid before us respecting the comparative merits of the ordinary drover's stick and the regulation goad adopted by the Metropolitan Cattle Market Committee, and approved by the Secretary of the Society for the Prevention of Cruelty to Animals—a short stick, tipped with a blunted iron point not exceeding $\frac{1}{4}$ of an inch long—leaves no doubt as to the great superiority of the latter both in point of humanity and as a security against deterioration of the meat by hidden bruises, and we unhesitatingly recommend the substitution of the goad for the stick on board ship, in loading and unloading cattle, and among all licensed drovers employed in the traffic.

VETERINARY CERTIFICATES.

At present all live stock shipped to this country from Ireland have to undergo a veterinary inspection previous to embarkation, and are only allowed to be forwarded on the production of a certificate as to their freedom from contagious disease. If when submitted for inspection they are unfit for it, because of their being heated, dirty, over-driven, or from "other causes," the inspector may refuse to pass them, and a case was quoted in which the Irish Privy Council had prosecuted an owner for shipping an animal in "an unfit state for inspection, and not rendering it fit by food and rest." The inspector had refused to pass it on the ground of its unfitness, and the owner refused to allow it to be detained, and shipped it, but it was subsequently removed from the ship, and the man prosecuted and fined. Your Committee consider it important that the power which now exists of detaining animals unfit for inspection should be extended to the detention of animals unfit for shipment from any cause, and for this purpose they recommend that there should be added to the certificate authorising shipment which must be signed by the veterinary inspector at the port of embarkation, a statement that in his opinion the animals to be shipped are in proper condition as regards absence of fatigue and recent feeding and watering, without cruelty to undergo a voyage of the duration of the average of that which they are about to undertake.

Inspectors can prevent embarkation of cattle unfit for inspection.
Bole, 7143.

Cantrell, 6793.

A certificate should be required of fitness for the voyage.
Bole, 7154-55.
Hedley, 669.

COWS IN CALF.

From evidence laid before the Committee, it appears that in the case of cows in calf, labour frequently comes on on board ship, and one case was mentioned in which as many as six calves were born during a stormy voyage. When this takes place, it was stated that the cows generally die, and one ship-owning witness, Mr. Watson, gave it as his opinion that the practice entailed such cruelty that the shipment of cows in an advanced state of pregnancy should be absolutely prohibited. Your Committee consider that this might be going too far, but would suggest that no such animals should be allowed to be shipped without a certificate from the veterinary inspector at the port of embarkation to the effect that, in his opinion, they were fit to undertake the voyage without risk of inducing labour, and then only in special and separate pens.

Shipment of cows in calf should be regulated.

Appendix 14.
Q. 4450.

FEEDING AND WATERING ON BOARD SHIP.

With regard to proposals for watering and feeding cattle on board ship, most of the voyages made in the Irish cattle trade are too short to require such provision to be made if the animals, as is proposed, are prohibited from being embarked when already suffering from want of food. In most of the longer voyages provision for feeding, watering, and rest on board ship is already made, but there are cases when a few hours' detention through fog or accident may at any time prolong the duration of the voyage to such an extent as to involve cruelty to animals deprived of food, water, and rest while on board. We therefore recommend that in the case of all vessels of which the average voyage is 18 hours, food and water shall be provided, and that arrangements shall be made to insure the cattle being properly fed and watered during the voyage.

Feeding and watering on board should be required in some cases.

McCall, 2875.

DELAYS BETWEEN EMBARKATION AND SAILING.

As the period during which an animal on board ship may suffer from want of food, water, and rest is measurable, not only by the length of the voyage but by the interval elapsing between shipment and unshipment, we recommend that the embarkation of cattle should take place within the shortest time practically possible before the departure of the boat.

Delay before sailing.
McCall, 2558.

THE PREVENTION OF CRUELTY TO ANIMALS.

Evidence was given by the Secretary of the Royal Society for the Prevention of Cruelty to Animals, that the law on that subject requires amendment in order to ensure its full applicability to sea transit. It appears to us that the same provisions as are considered necessary for the protection of animals ashore against cruelty should be extended to the case of animals on board ship within British jurisdiction, and we think that the law should be amended with that object.

Law as to cruelty to animals should be amended.
Q. 6952.
Appendix 15.

SLASHING PIGS WITH KNIVES.

We have also had our attention called to a practice of marking pigs by slashing their hides with knives. For the purpose of putting an end to a practice so wantonly cruel, we recommend that the shipment of animals so treated should, after proper notice, be forbidden.

SUMMARY OF RECOMMENDATIONS.

Recommendations recapitulated.

In conclusion we would briefly recapitulate our principal conclusions and recommendations :—

- (1.) That in order to secure the more effective control of the Government Departments concerned over the sea-borne Irish cattle trade all vessels engaged in it should require a licence from these Departments, to be granted on the production of the certificate of the Board of Trade, on behalf of the Irish Privy Council, and to remain in force for the same period as that certificate, but revocable in case of offence against the regulations of the Irish Privy Council or the Board of Agriculture, and that the carrying of live stock in numbers above a low fixed maximum without such licence should be forbidden under a substantial penalty.
- (2.) That inspectors should be employed by the Departments, whose duties should include travelling in cattle ships and inspecting them while at sea.
- (3.) That owners of licensed ships should be required to make periodical returns of casualties occurring on board.
- (4.) That the regulations at present in force should be strengthened by the adoption of certain of those in force in the Atlantic trade which relate to fittings and lighting.
- (5.) That, as in the Atlantic trade, the duty of ordering the slaughter of cattle seriously injured during the voyage should be imposed upon the master of the vessel.
- (6.) That ships' fittings likely to cause injury to cattle should be fenced off from the pens.
- (7.) That, as in the Atlantic trade, all fat cattle should be securely tied by the head.
- (8.) That the regulations regarding ventilation should be amended, and that certain regulations in force in the Atlantic trade should be extended to the home trade.
- (9.) That passage-ways below deck should be made compulsory, and the maximum length of pens reduced to 10 feet, but that in the case of ships now in the trade a reasonable time should be allowed to effect the change of present fittings.
- (10.) That the regulation against overcrowding of ships be amended so as to make it clear that it provides against the overcrowding of portions of ships and pens.
- (11.) That it is not desirable to interfere with voluntary arrangements as to the insurance or non-insurance of cattle carried by sea.
- (12.) That the gangways and the approaches thereto employed in shipping cattle should be under the control of the Departments, and that the shipping or unshipping of cattle by gangways so steep as to involve danger or cruelty be forbidden.
- (13.) That cattlemen be employed by shipowners, in addition to the ordinary crew, in sufficient number to attend to all the live stock on board.
- (14.) That drovers plying for hire at the principal ports of export and import be licensed by the local authority under the Contagious Diseases Animals Acts.
- (15.) That a goad of the pattern approved for driving animals be substituted for the stick in all cases.
- (16.) That as a condition to the embarkation of animals, in addition to a certificate of health, the veterinary inspector should be required to certify that in his opinion the animals to be shipped are in a proper condition, as regards absence of fatigue and recent feeding and watering, to undergo a voyage of the average

duration of that which they are about to undertake, and that in the case of cows in calf he should further certify that in his opinion the animals are fit to undertake the voyage without risk of inducing labour.

- (17.) That in all vessels the average duration of whose voyage is 18 hours food and water shall be provided for the cattle, and that arrangements shall be made to insure the cattle being properly fed and watered during the voyage.
- (18.) That the law relating to the prevention of cruelty to animals should be amended so as to make the protection afforded to animals on board ship co-extensive with that afforded to them on shore, and the practice of marking pigs by slashing their hides with knives should be discountenanced by prohibiting, after notice, the shipment of animals so marked.

We append a report of the evidence and documents on which our report is based and have the honour to be,

Sir,

Your most obedient servants,

CHARLES CAMERON

W. S. B. KAYE.

*ALFRED BOOTH.

*HUGH CULLEN.

*W. FIELD.

J. PARKER SMITH.

J. T. TENNANT.

INGRAM B. WALKER.

*WILLIAM WATSON.

E. G. HAYGARTH BROWN,
Secretary.

7th August 1894.

* *These signatures are those of members of the Committee who sign the General Report subject to reservations stated in individual reports which follow.*

Supplementary Report by Mr. Booth and Mr. Cullen.

Having signed the Report in full general concurrence with its statements and conclusions, we add the following supplementary note on certain points.

1. On ventilation we think the expression of opinion in favour of well considered mechanical ventilation, supplemental to the requirements for automatic ventilation, should be made into a definite recommendation to that effect.

2. On passage-ways, we think that, in order to ensure proper attendance on the live stock and a reduction in the number of animals stowed in a given space, the recommendation should be for a passage-way between each two rows of pens and in front of every single row. But if the requirements are to be satisfied with one passage-way, it should then be proportionately wider.

3. On the order for tying, we think the sea carriage of any cattle untied, except calves and yearlings, ought to be discouraged; and that in pens where cattle are carried loose the floor should be cross-battened for necessary foothold; that the mixing of horned and polled cattle ought to be prohibited; and that tied cattle should always be placed athwartships and that the fore and aft battens should be four in number.

4. Seeing the depreciation of stock, of probably 500,000*l.* annually, being lost to the Irish stock raisers, and the constant suffering to animals, incident to the present methods of transit, we think the convenience of the carrying trade is over much studied in the suggestion that it would be reasonable to allow three years for altering the fittings of cattle decks; and we should regard a considerably shorter notice as reasonable. And in the case of existing badly ventilated holds and 'tween decks, or of inadequate footholds, we think the necessary improvements ought to be made without any delay.

5. On the question of responsibility of shipowner, we dissent from the conclusion that "no additional motive for care could be impressed on the carriers" unless as stated; and we think that, while the terms of contract between ship and shipper as to liability accepted or renounced by the former should be free on all other points, the captain and owners of the vessel ought to accept the liability for due care in loading, stowing and discharging live stock, these resting within their exclusive direction and control, and that such liability should be legally imposed upon them.

6. We regard the exhausted condition in which animals are frequently shipped as an important cause of the injury and suffering which follow; and we think that if the intentions of the recommendation on "Veterinary Certificates" are to be fulfilled, the Veterinary Inspectors must be instructed to act unhesitatingly in every case where they are not satisfied that animals have been recently fed. And we think they should under no circumstances pass animals for shipment which have not been within the pens, with access to the water troughs, and watered there.

7. We think if the use of the lower hold for carriage of cattle is continued, it should be conditional upon provision being made there for more air and less overcrowding by ample passage-ways, mechanical ventilation, and by improvement, where required, of the gradients of the cattle ladders.

8. We think the forward part of the weather deck is not a fit place for the carriage of live stock from Ireland to Great Britain.

ALFRED BOOTH.
HUGH CULLEN.

Supplementary Report by Mr. Cullen.

I agree to the Majority Report, as it is evidence of an anxiety to effect an improvement in the transit of animals. The proposed remedies are moderate, and, if carried out, may possibly effect a benefit in this direction: It will do so if it is only to draw public attention to the evidence that has been given before the Committee of the preventable injury and cruelty to animals in transit that exists at present.

I understood that the Principal of the Board of Agriculture, Major Tennant, seemed willing and anxious to give the recommendations of the report a fair trial; but my opinion is that the powers to enforce the remedies recommended are wholly insufficient. The Committee was not long sitting until it was apparent to me that we had evidence of a most conflicting character to deal with (*see* notes 1 and 2), and that we had to do with a powerful combination which was strongly united by the ties of self-interest. It had private meetings and conferences which enabled it to exercise its powers as a huge monopoly of railway companies and steamship owners combined. This combination, which included the London and North-western Railway Company, with its 160,000,000*l.* of capital, practically decided on what terms the cattle traffic of Ireland should be conducted. The latter named company has the practical control of more than one-half of the entire number of animals exported from Ireland to the United Kingdom; the total number of cattle, sheep, and swine imported into the United Kingdom in 1892 being 2,205,610, of which 1,355,866 were landed at Holyhead and Liverpool. Under these circumstances I thought it my imperative duty to make this supplementary report, and to state these, my views, to the Lord President.

I find that few prosecutions were taken against the steam packet owners for damage sustained by cattle in transit by sea, where undoubtedly the injury took place; and it appears to me that they are the only parties who have it in their power to provide proper care, fittings, and accommodation on shipboard; also that the admirable recommendations made by the Committee to the Lord President of the Council in 1870 have not been carried out efficiently, especially so far as ventilation and the other arrangements necessary for the safe carriage of animals are concerned. Further, that the penalties, if any, for infringing the regulations referred to, were seldom, if ever, recovered; and, consequently, few prosecutions took place. This I attribute to the sixth regulation, page 11, of that report, being inoperative, which states:—"Whenever any of these regulations are infringed, the owner or master shall be deemed to be the person acting in contravention of these regulations, under section 103 of the Contagious Diseases (Animals) Act, 1869." Being inoperative, it may be that this regulation is now obsolete; but from the evidence of Major Landon it appears to me to be still in force (*see* note 4). I venture to suggest, however, that if clause six of the regulation of 1870 is not in force, or from any cause remains unworkable, it may be restored, and the powers under section 103 revived, and otherwise made simply and legally effective.

The contracting-out clause is particularly objectionable, as it relieves the shipowners from legal liability for the safe transit of stock, although they are the only persons who have power to make the necessary arrangements to provide it.

Cattle owners, their servants, or other outside persons have not, and ought not to, have authority on shipboard, as it would interfere with the discipline of the ship. No one else can, therefore, be rendered legally liable for injury sustained, consequently cruelty and injury exists, which is practically unknown in the Atlantic trade. This exemption from legal liability is equivalent to a bounty to the shipowners, which is at the expense of the Irish producers, and to the injury of the English consumer; and it should not be continued.

NOTE 1.—Annual preventable loss on cattle in transit by sea, 600,000*l.* (700,000*l.*). *Rooth*, Qu. 2059.

NOTE 2.—The whole condition of transit by the London and North-western boats and Liverpool boats is as satisfactory as can be reasonably expected. *Harrison*, Qu. 6152 and 6154.

NOTE 3.—*See* Annual Veterinary Report for 1892, page 185.

NOTE 4.—Major Landon's evidence, Qu. 11.

NOTE 5.—*See* copies of the contracting-out clause, handed in by Major Landon, appended.

If there is not considerable improvement in the transit by sea of live stock within a year it seems to me further legislation will be absolutely required, as the loss is unquestionably enormous and preventable.

HUGH CULLEN.

Contracting-out Clauses handed in by Major Landon.

SPECIAL CONTRACT for CONVEYANCE of LIVE STOCK to LIVERPOOL solely at OWNER'S RISK.

I, the undersigned, have delivered _____, this day to the City of Dublin Steam Packet Company, for shipment to Liverpool, and I agree in consideration of the reduced rate of freight charged for conveyance of such stock, to take upon myself the entire risk of transit, and to hold the said City of Dublin Steam Packet Company free from liability for deficiency in numbers, or for any loss or injury the aforesaid stock may sustain at shipment, in landing, or during the voyage, whether arising from or consequent upon the dangers or accidents of the sea, rivers, harbours, or navigation, or from the act of God, the Queen's enemies, pirates, restraints of princes rulers, or people, jettison, barratry, collision, stranding, fire on board or on shore, improper, careless, or unskilful navigation, or from accidents connected with machinery or boilers, defects in the ballasting or stowage, or from any fault or negligence, or mistake of the master, pilot, officers, crew of the vessel, or other servants of the company.

(Signed)

Owner, or on Owner's behalf.

day of

18 .

Mr. _____

I receive your stock for shipment to Liverpool, at our reduced rates of freight, in consideration of your having agreed to hold the City of Dublin Steam Packet Company free from liability for deficiency in numbers, or for any loss or injury such stock may sustain at shipment, in landing, or during the voyage, whether arising from or consequent upon the dangers or accidents of the sea, rivers, harbours, or navigation, or from the act of God, the Queen's enemies, pirates, restraints of princes rulers, or people, jettison, barratry, collision, stranding, fire on board or on shore, improper, careless, or unskilful navigation, or from accidents connected with machinery or boilers, defects in the ballasting or stowage, or from any fault, negligence, or mistake of the master, pilot, officers, crew of the vessel, or other servants of the company.

Supplementary Report by Mr. Field, M.P.

While concurring with the findings of the Committee generally, I am of opinion that sufficient stress has not been given to the evidence and conclusions that follow thereon concerning the under-mentioned points:—

- (1.) Responsibility for cattle after shipment by steamship owners as carriers.
- (2.) The number of cattle to be carried on vessels to be stated in certificate issued by Board of Trade, and defined space allotted for each animal or pen of animals. The English Board of Agriculture to be empowered to ascertain if such regulations are carried out.
- (3.) Altering disposition of animals in pens, *i.e.*, loading them with their heads towards the centre of the vessel.
- (4.) Increase in number of fore-and-aft battens and the addition of thwart-ships battens in order to give a better foothold to the animals.
- (5.) Improved system of mechanical ventilation as shown in the model stalls and fittings exhibited by Mr. John Rooth, Douglas, one of the witnesses examined by the Committee.
- (6.) Improved construction of gangways, especially in the matter of reducing the angle at which they are laid in loading or unloading cattle; also the introduction of a side-walk or gangway outside the loading gangway, to facilitate the safe loading or discharging of stock.
- (7.) Use of electric light on all vessels employed in the cross-channel traffic, as for example that now in use on the Drogheda cattle carrying vessels.
- (8.) No cattle, sheep, or swine to be carried in lower hold.
- (9.) The number of bullockmen employed should be in proportion to the number of animals carried, say not less than one bullockman to every 75 beasts.
- (10.) That negotiations should be entered into between the carrying companies and consignors, so that an equitable rate could be agreed upon, which would act as an insurance covering death or injury.
- (11.) I strongly recommend that Mr. Rooth's patent stalls and fittings should be adopted on all new vessels intended for the cross-channel live stock traffic, an essential principle being that the animals are tied head centrewards, the system in its entirety practically provides all the requirements necessary for the safe and humane carriage of live stock in respect of easy access to cattle, and also feeding, watering, light, ventilation, and secure foothold.
- (12.) In conclusion, it is desirable it should be placéd on record that resolutions strongly recommending and favourable to the points above referred to have been received from such important bodies as the Royal Dublin Society, the National Federation of Butchers and Meat Traders, the Irish Cattle Traders' Association, the Manchester and Salford Butchers' Association, the Liverpool and District Butchers' Association, as well as other associations representing the agricultural, cattle, and meat interests of the United Kingdom.

N.B.—It is calculated that live stock to the value of about 20 millions sterling are annually exported from Ireland to Great Britain. It has been estimated that half a million pounds would almost purchase the fleet engaged in carrying live stock, and several witnesses deposed that an equal or greater amount was lost annually through the depreciation in value caused by imperfect transit, so that if this contention be correct one year's loss would nearly buy up the carrying companies' interests.

5th July.

W. FIELD.

Supplementary Report by Mr. Watson.

To the Right Hon. HERBERT GARDNER, M.P., President of the Board of Agriculture.

SIR,

I HAVE signed the foregoing Report subject to the following observations:—

In my opinion, no injury to live stock from improper fitting of vessels or from cruelty has been shown to have occurred on any of the regular cattle carrying steam lines from Ireland to Great Britain, and the evidence given satisfies me that the law in the case of these vessels is strictly carried out, but I consider it is in the interest of all concerned, whether shipowners or stockowners, that the humane transit of animals should be secured under all circumstances, and that it should not be possible that vessels improperly fitted or provided should be allowed to engage in the trade.

I am of opinion that no alterations should be required in the fittings or arrangements of any vessels now fitted according to the present law, unless when their fittings require renewal, so that the alterations may be made without expense to the shipowners.

I object to the suggestion that the carriage of stock in the lower holds should be discouraged, as I believe that in properly fitted vessels the lower holds are as suitable as the between decks for the carriage of live stock.

I dissent altogether from the recommendation that the shipowners should be compelled to provide skilled cattlemen for all the live stock on board, and I consider it would be specially unreasonable that such should be required in cases where the owners of the stock, of their own choice, and in consideration of a substantial reduction in freight, undertake the entire risk and are given free passages for their men that they may attend to the stock.

I am, sir,

Your most obedient servant,

WILLIAM WATSON.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE DEPARTMENTAL COMMITTEE

APPOINTED BY

THE BOARD OF AGRICULTURE

TO INQUIRE INTO THE

TRANSIT BY WATER AND THE EMBARKATION AND
LANDING OF ANIMALS CARRIED COASTWISE;

WITH

APPENDICES.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

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1894.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

DEPARTMENTAL COMMITTEE

ON THE

TRANSIT BY WATER AND THE EMBARKATION AND LANDING OF ANIMALS CARRIED COASTWISE.

FIRST DAY.

At 7, Whitehall Place, S.W.

Tuesday, 20th March 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B., Q.C.
Mr. ALFRED BOOTH.
Mr. HUGH CULLEN.
Mr. W. FIELD, M.P.

Mr. J. PARKER SMITH, M.P.
Major JOHN TRENCHARD TENNANT.
Mr. INGRAM B. WALKER.
Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Major LANDON called and examined.

Maj. Landon.

1. (*Chairman.*) Will you tell the Committee what your exact official position is?—I am Travelling Inspector for the Board of Agriculture.

2. Have you been long in that capacity?—Since 1886.

3. What is the date when legislative powers were first granted to the Privy Council?—1869.

4. That was to control the travelling of cattle?—Yes. There was an Act passed in 1869.

5. That was under the Contagious Diseases (Animals) Act, 1869, was it not?—Yes.

6. Will you please state what powers on the subject of our inquiry that Act conferred upon the Privy Council?—Firstly, for ensuring for animals brought by sea to ports in Great Britain a proper supply of food and water during the passage and on landing. Secondly, for protecting such animals from unnecessary suffering during the passage and landing. And thirdly, for protecting animals from unnecessary suffering during inland traffic.

7. In accordance with the powers conferred upon them, the Privy Council issued an Order?—Yes, on the 10th of August 1869.

8. And the number of the Order was 258 of 1869, I believe?—Yes (*delivered in the same*).

9. Will you tell us the effect of that Order?—It related principally to foreign cattle, but Article 21 referred to cleansing the pens, trucks, and boats engaged in inland and canal navigation.

10. In 1869 I understand a Departmental Committee was appointed by the Lord President to inquire as to the best mode of carrying out the provisions of sections 64 and 75 of the Act; will you give the recommendations of that Committee for the information of the members of this Committee?—The Committee of 1869 recommended:—“(1.) All the space used for carrying “ animals shall be divided into pens by substantial “ divisions; each pen shall not exceed 9 feet in breadth “ or 15 feet in length. (2.) The floors of each pen shall “ be provided with battens or other footholds; and “ ashes, sand, sawdust, or other suitable substance shall “ be so strewed on the floors of the pens, and on the “ decks and gangways, as to prevent the animals from “ slipping. (3.) Every space on deck in which animals “ are carried shall, from the 1st of November to the “ 1st of May be protected from weather. (4.) If the “ animals are carried in an enclosed space, provision “ shall be made for its proper ventilation by separate “ inlet and outlet openings, of such size and position “ as will secure a sufficient supply of air in all states “ of weather. (5.) Every vessel, or the parts of it, “ used for carrying animals, shall be cleansed and dis- “ infected in such manner as may be from time to “ time prescribed by the Privy Council. (6.) Whenever “ any of these regulations are infringed, the owner or “ master shall be deemed to be the person acting in “ contravention of these regulations, under section 103 “ of the Contagious Diseases (Animals) Act, 1869.”

11. The next step in the history of the matter was the passing of the Contagious Diseases (Animals) Act

Maj. Landon. of 1878, was it not?—No. In 1871, in consequence of this report, there was an order passed adopting all those recommendations of the Committee, except as to animals not being carried on deck during the winter months the recommendation was adopted as regards shorn sheep, but it was not applied to all animals.

12. Did it adopt the recommendation to make the master or owner of the ship responsible?—Yes.

13. Then in 1875 there was another Order, was there not?—The principal one was this 1871 Order.

14. Would you like to hand that in?—Yes (*delivering in the same*). The Animals Order of 1875 was next passed, when the regulations which were passed in 1875 were adopted, and regulation for cleansing vessels hired for the use of animals conveyed by sea, and by canal and river navigation were made.

15. That brings us to the Act of 1878?—Yes.

16. Please state what alterations that made in the matter?—There was no alteration, but the Act of 1878 gave the Privy Council much greater powers, and that is in force now.

17. Will you please tell us generally what Orders have been issued under that Act, and what the effect of this Order is?—There were no Orders issued, no fresh Orders regarding ships; the same Orders issued in 1871 and 1875 are in force now.

18. You say the Privy Council has had greatly increased powers?—Yes.

19. I understand you to say that the Privy Council or the Board of Agriculture has not availed itself of those powers?—I do not say that they have not availed themselves of the powers.

20. What alterations have they made?—The Act of 1878 gave more general powers. I do not say it gave more powers as to shipping than under the Act of 1869, but it gave more general powers on various matters.

21. If you have anything bearing upon the matter that is before us, will you let us have it?—Yes.

22. Can you give us any alteration that was made?—There was no alteration between 1871 and 1886 excepting in the Order of 1875, and in the Order of 1879 where overcrowding was dealt with.

23. That is the only remark you wish to make regarding these Orders?—That is all.

24. We now come to the complaints which have reached us as to the unnecessary suffering and cruelty inflicted on Irish cattle during their transit to this country. Will you state what you have to say upon that point?—Various inquiries have been held, the last being by the Travelling Inspectors of the Board of Agriculture and the Privy Council in 1889, but hitherto no practical remedies have been found to mitigate the evil, which no doubt exists, and which, I am informed, in a measure is attributable to certain causes.

25. What are the causes that you attribute it to?—Firstly, the want of due care on the part of owners and consignors of cattle in not employing trustworthy caretakers to see that their consignments receive careful and humane treatment during their transit from Ireland to their destination in this country. I am only to deal with water traffic, not with land traffic, I understand?

26. We may ask you one or two questions about the land traffic afterwards, but you had better pursue the line laid down for yourself now?—I may continue by saying, secondly, by permitting cattle to be carried in the lower holds of vessels, and in not compelling alleyways to be made on each deck, so that effective inspection can be made, and effective assistance given to cattle when down.

27. And further what do you say?—Thirdly, through the gradients at the places of embarkation and debarkation being too steep. Fourthly, through undue detention caused by permitting shipping and railway companies to contract themselves out of their liability as common carriers.

28. (*Mr. Watson.*) I do not understand what you mean by undue detention?—I will put it, detention then—through the detention caused by allowing shipping or railway companies to contract themselves out of their liability as common carriers. Fifthly, through unnecessary mixing of consignments, or may I say through mixing of consignments, and so rendering frequent

drawings necessary. Sixthly, through want of rest, food, and water. And, seventhly, through the defective arrangements of the dock board at Liverpool and Glasgow, in not providing proper landing stages and reception lairs.

29. Have you any knowledge of the complaints as to the state of the cattle arriving at the port of embarkation consequent on their treatment in land transit?—I made an inquiry in 1889 as to the whole traffic—in fact, all the inspectors went through the whole of the inland and water traffic of animals in their transit from Ireland to this country, so that I think I can answer some questions; at any rate I will answer as many as I can.

30. What was the result of those inquiries; in what condition did you find the cattle arrive at the end of the land transit?—At times they arrived in a very distressed state, but I have evidence as to their treatment from the time they started from their pastures in Ireland to their arrival in Yorkshire or wherever they went to.

31. Could you give us the result of your inquiry?—Yes, I could. A large dealer in Dublin gave me some descriptions of what took place at some of the fairs in Ireland. He says the whacking commenced when they were brought from the fairs to the markets, to get them into subjection. He said it really was not done in cruelty, no actual cruelty was inflicted on the cattle, but they had to be brought into subjection, and it was very difficult to tell where necessary whacking ends and cruelty begins; and this went on from the start to the end of the journey. It was rather difficult to get the cattle into a railway truck when they had not been on a railway journey before. They got whacked into the railway waggons, and then they got whacked into the ships.

32. Before we go to the ships, have you any evidence, of the state in which the cattle were, or did you form any conclusion as to the state in which they found themselves when they were waiting to be placed on board ship?—Some evidence I had given to me was to the effect that they were frequently in a very distressed state when they arrived at the boats.

33. Did you form any conclusion as to the adequacy or inadequacy of the arrangements for feeding or watering them previous to embarkation?—I believe there was food in Dublin; in most of the Irish docks there is food for the owners like to pay for it, but I was informed that they very seldom would pay for it.

34. Did you make any report upon that point?—Yes, I have a report here on the transit of cattle from Ireland to Great Britain. All the travelling inspectors made a report upon this very point.

35. Would you read just the point of the report on the subject?—On page 26 there is an extract from my report as follows: "That at nearly all the ports in Ireland, pens, and in some cases, lairs, are provided by the various shipping companies for keeping herds separate, for watering, resting, and (if required by owners) feeding cattle, and that all embarkations are under the inspection of the police." I am informed that the Irish Privy Council have no power of compelling rest.

36. Did you make any recommendations on that point?—I did afterwards. I made this recommendation, that ill-treatment might be reduced, "Firstly, by owners, dealers, and others engaged in the importation of Irish cattle exercising more care in conducting their trade, and by employing trustworthy and experienced caretakers to accompany all large consignments of cattle direct from their pastures and sheds in Ireland to their destination in this country. Secondly, by local authorities applying for powers, and licensing, and so placing all drovers under control, so as to prevent every idle loafer constituting himself a drover, and by encouraging, rather than prohibiting, the use of properly constructed goads."

37. Have you any more recommendations?—Major Tennant, the chief travelling inspector, embodied portions of our reports in his report.

38. Let us have what Major Tennant said?—Major Tennant reported in July 1889, it is called a "Report by the chief travelling inspector of the Privy Council on the Transit of Cattle from Ireland to Great Britain," and on page 14 he says, "The general results arrived at from the inquiry may be summarised as follows: 1. The cattle in transit are unnecessarily and severely beaten, and that to obviate this evil all drovers publicly plying for hire should

"be required to take out a licence, and that these persons should be encouraged, under proper supervision, to use the goad. 2. That dishorned cattle (when kept apart from horned cattle) suffer much less during transit than horned cattle. 3. That the existing arrangements for the reception of Irish cattle at Liverpool and Glasgow are defective, and that the local authorities of those places might properly be invited to consider whether improvements could not be made. 4. That if the 6th suggestion of the Conference relating to the ventilation of vessels be adopted, the end desired can best be attained by decreasing the number of cattle carried in the holds. In conclusion, it may be pointed out that much of the ill-usage to which cattle are now subjected might be prevented if owners of cattle would take a more intelligent and humane interest in the protection of their property. It is fully recognised that to be profitable animals must be carried quickly and cheaply, and that a certain amount of coercion must be used to urge them forward on their journey. These causes must inevitably inflict a certain amount of suffering, but much unnecessary hardship seems brought about in consequence of the neglect of owners to employ trustworthy and respectable caretakers to take charge of the animals during the journey. Large consignments of cattle are sent, without any attendant as if they were so many carcasses; and even where attendants are sent the persons engaged are often quite incompetent, and frequently are under the influence of drink during the whole of the journey. It must always be a difficult matter for the Government to protect the property of persons who will take no measures to protect it themselves."

39. I think you have given all the recommendations, have you not?—I have given you all the recommendations.

40. Are we to understand that Major Tennant's recommendations which you have read out embody the whole of the recommendations of the Board of Agriculture on the subject?—No; of the travelling inspectors; to the Board of Agriculture.

41. Have the travelling inspectors given any recommendations on the other points concerning which complaints have been made, which have been enumerated by the Committee, as to the steepness of gradients at embarkation or debarkation, or anything about the policy of permitting shipping and railway companies to contract themselves out of their liabilities as common carriers?—No, I am not sure. What I gave in my report was based on the evidence which I received when I made my inquiry in 1889. Those recommendations were the result of my own observation.

42. That I quite understand, but I only asked whether the Board of Agriculture, either through yourself or other officials, had expressed any opinion on the other point?—None that I am aware of.

43. I believe you have prepared a table of statistics showing the number of cattle, sheep, and pigs, brought from Ireland into England since 1890, and also the chief importing seaports in England and Scotland for Irish cattle in 1892?—Yes, those are the last statistics I got in my office.

44. What is the chief import town in England?—Liverpool.

45. And what was the amount of those imports at Liverpool for 1892?—There were altogether 965,269 cattle, sheep, and pigs imported into Liverpool.

46. What comes next?—Holyhead, 379,751, and then Glasgow, 156,855.

47. And what is the next?—Bristol, 172,862; Milford, 170,409. Then comes Morecambe, 99,341; Stranraer, 36,419; Barrow-in-Furness, 32,624; and Fleetwood, 30,904; the cattle, sheep, and pigs are all together.

48. Will you please hand in that table?—I will.

The witness handed in the following table:—

NUMBER OF CATTLE, SHEEP, and PIGS imported from Ireland into Great Britain since 1890.

	Cattle.	Sheep.	Pigs.	Total.
1890	578,249	636,981	603,162	1,818,392
1891	567,243	893,175	508,584	1,968,002
1892	568,189	1,080,202	500,951	2,149,312

Chief Importing SEAPORTS in Britain for IRISH CATTLE, with IMPORTS for 1892.

	Cattle.	Sheep.	Pigs.	Total.
Liverpool	225,982	573,428	165,889	965,269
Glasgow	109,292	31,515	16,048	156,855
Holyhead	51,488	184,707	143,556	379,751
Bristol	34,894	80,088	57,880	172,862
Milford	26,938	113,222	30,249	170,409
Morecambe	26,595	40,955	31,791	99,341
Stranraer	27,871	3,339	5,209	36,419
Barrow-in-Furness	13,056	640	18,319	32,624
Fleetwood	17,045	5,088	7,571	30,904

H. LONDON,
Travelling Inspector,
Board of Agriculture.

March 19, 1894.

49. (*Sir William Kaye.*) You are aware that all cattle coming from the ports of Ireland are all inspected by the inspector of the Veterinary Department before shipping them?—I am quite aware of that.

50. You said that there was power to make an Order for the detention of animals?—I understood Mr. Hedley to say that there was no power except in case of disease to detain them for rest.

51. Have you had before you the Animals (Ireland) Amendment Order of 1886?—No.

52. I will just read one provision of that which is this:—"The owner or person in charge of each animal intended for inspection and shipment shall have the same presented for inspection, with an application for such inspection, at such place and in such manner as may be set forth in regulations to be made as aforesaid, or as the inspector, subject to such regulations, may require; and should any such animal, from being heated, dirty, overdriven, or from any other cause, be considered by the inspector to be in an unfit state for inspection or examination, its owner, or the person in charge of such animal shall, as far as possible, render it fit for inspection by rest or cleansing, or other means, as the case may require." You have not that provision?—No, I have not; I asked Mr. Hedley, and he said you had no power.

53. I am looking at one of the Privy Council Orders now?—Yes.

54. You said that there was a desire on the part of the railway companies to contract themselves out of their liabilities. How is that; it is quite new to me?—I was informed during my inquiry that that was the case.

55. But you have no information yourself upon the subject?—Not as far as railways are concerned.

56. You visited the port of Dublin in the course of your inspection, did you not?—I did.

57. And you saw the arrangements made by the shipping companies for the cattle before shipment?—Yes.

58. Was not everything satisfactory so far as those arrangements were concerned?—I have notes here. I see my notes say:—"The North Wall Companies, and Shipping Companies, with the exception of M.G.W.R., were good and well kept. The wall at which cattle are embarked at low water stands very high out of the water. The gangways which lead to the vessels are necessarily at a very steep gradient."

59. I am speaking merely as to the lairs and yards, and the position with regard to water and food?—They were good. I do not think I said they were bad; in fact, in all those places in Ireland the resting places are very good indeed; but my complaint is that they are not made use of.

60. We shall have evidence upon that afterwards. But are you aware that all these lairs which are used for resting cattle, have to be licensed and certified by inspectors of the different departments?—Yes.

61. (*Mr. Watson.*) In reference to the contracting out, I did not quite understand what you exactly referred to?—Simply the contracting out. I have the contract notes of nearly all the shipping companies here, and

Maj. Landon. they have contracted out of their liability, I was informed. I was told by people connected with the trade that that led to detention.

20 March 1894.

62. I asked particularly in reference to your recommendation number 4. You said there was undue detention arising from contracting out, and I wish to know what that means?—I was informed by some of the witnesses that I saw, the people who gave me information, that the shipping companies were not liable for any detention or injury, because they contracted themselves out of liability by their notes.

63. The question I ask you is this: You say, "Undue detention caused by permitting shipping and railway companies to contract themselves out of their liability." I want to know how undue detention is caused by contracting out; that is the object of my question?—I have no knowledge myself; I only went by what I was told by various people in the trade.

64. I presume we shall have evidence before us of what is really done in this case. I do not quite understand how undue detention is caused by contracting out, assuming contracting out exists?—One of the recommendations made in 1889 was by one of the principal importers, and it was that the railway companies in Ireland and the various shipping companies, should not be permitted to contract themselves out of liability under the Common Law, and in every case of any animals killed or seriously injured whilst in their charge, they should be liable for the injury caused by their neglect.

65. That does not in any way explain the word "detention." I want to know whether it is a correct expression?—I was told that they were doing so. I have got some more evidence. I have a great many things to look through here. I do not know that there was any undue detention.

66. Then I would also like to ask what contracting out you refer to, or what your knowledge of the subject is?—I have the contract notes of the various companies.

The witness read the City of Dublin Steam Packet Company's Contract Notes as follows:—

CITY OF DUBLIN STEAM PACKET COMPANY.

The owner or shipper of live stock has, in all cases, the option of sending live stock by the company at one or other of two rates (Rate No. 1 and Rate No. 2). Rate No. 2 is a reduced rate, and when adopted, the stock are received, conveyed, and delivered, wholly at the owner's risk. The following table shows the rates in each case:—

Rate No. 1.

Rates of Freight per Head covering Sea Risk, to the extent on each Animal as under.

	£	s.	d.
Cattle,	15	...	7 9
Sheep,	2	...	1 6
Lambs,	2	...	1 2
Bacon Pigs,	2	...	3 6
Pork Pigs,	2	...	2 1

Rate No. 2.

Rates of Freight per Head when carried at owner's risk on the conditions stated below.

s.	d.	
7	0	Cattle,
1	4	Sheep,
1	0	Lambs,
3	2	Bacon Pigs,
1	10	Pork Pigs.

SPECIAL CONTRACT for Conveyance of Live Stock to Liverpool, solely at Owner's Risk.

The owner having had the option of sending his stock at the company's risk, he paying the higher rate for carriage mentioned above.

I, the undersigned, have delivered this day of 1889 to the City of Dublin Steam Packet Company, for shipment to Liverpool, and I agree in consideration of the reduced rate of freight charged for conveyance of such stock, to take upon myself the entire risk of transit, and to hold the said City of Dublin Steam Packet Company free from liability for deficiency in numbers, or for any loss or injury the aforesaid stock

may sustain at shipment, in landing, or during the voyage, whether arising from or consequent upon the dangers or accidents of the sea, rivers, harbours, or navigation, or from the act of God, the Queen's enemies, pirates, restraints of princes, rulers, or people, jettison, barratry, collision, stranding, fire on board or on shore, improper, careless, or unskilful navigation, or from accidents connected with machinery or boilers, defects in the ballasting, or stowage, or from any fault or negligence, or mistake of the master, pilot, officers, crew of the vessel, or other servants of the company.

(Signed)

Owner, or on owner's behalf.

day of 1889

Mr.

I receive your stock for shipment to Liverpool, at our reduced rates of freight, in consideration of your having agreed to hold the City of Dublin Steam Packet Company free from liability for deficiency in numbers, or for any loss or injury such stock may sustain at shipment, in landing, or during the voyage whether arising from or consequent upon the dangers or accidents of the sea, rivers, harbours, or navigation, or from the act of God, the Queen's enemies, pirates, restraints of princes, rulers, or people, jettison, barratry, collision, stranding, fire on board or on shore, improper, careless, or unskilful navigation, or from accidents connected with machinery or boilers, defects in the ballasting or stowage, or from any fault, negligence, or mistake of the master, pilot, officers, crew of the vessel, or other servants of the company.

Rates of Freight per Head covering Sea Risk. To extent as under.			Reduced Rates of Freight when the Stock is sent at the Owner's Risk.
	£	s. d.	s. d.
Cattle,	15	7 9	7 0
Sheep,	2	1 6	1 4
Lambs,	2	1 2	1 0
Bacon Pigs,	2	3 6	3 2
Pork Pigs,	2	2 1	1 10

67. What company is that?—I am reading the City of Dublin Steam Packet Company's, but that is not the only one; I have got the contract-notes of other companies.

68. Does that contract not cover all risks?—Yes.

69. And the company do not contract out of the liability, but the owner; if he wishes, contracts himself out of the liability. That is the reason I raised the question?—Yes.

70. As to the steepness of the gangways, to what parts do your remarks refer?—Dublin, the North Wall one; the gradient is very steep at low water.

71. It is only steep at low water point?—Yes, at low water.

72. And it is steep at other ports, for instance, at Liverpool?—Very steep, some of them; but the Nelson Dock at Liverpool is very bad indeed. I have seen animals go out of the vessels that were hardly able to go up at all, and they hesitated as if they would tumble back; it is worse than Dublin.

73. You spoke of the advantage of using goads. Are goads allowed to be used?—In some places they are. Why we recommend them is that we find that the animals are much easier driven and separated with goads.

74. But you are decidedly of opinion that goads are preferable to beating with sticks?—Certainly.

75. (*Mr. Booth.*) One question about steep gradients: I presume it is more difficult to get cattle to go down steep gradients than up?—I do not think it is; I have seldom seen them embarked.

76. I only want your opinion?—My opinion is that it is very difficult to get them up in places. I have seen them in the Nelson Dock at Liverpool wait there nearly three or four minutes before they can get them up; they go halfway, and stop for breath.

77. Is that on the south side of the dock wall?—Yes.

78. That is not much used?—Not now.

79. I do not think it is used at all?—I do not know.

80. The gradients of Dublin are steeper than any other at low tides?—In Dublin they are very steep; they had great difficulty in getting the cattle down to the vessels, the only time I was there.

81. (*Mr. Cullen.*) Do you recommend that the owners and consignors should send their men in charge of the cattle on board the steamers?—I should certainly think so if their cattle require to be well looked after.

82. Is that a practical recommendation; would it be desirable in the interests of the discipline of the ship, to have men come across in charge of cattle without any proper head, and varying from week to week, according to the number of cattle and the circumstances of the case?—I should have thought in a large consignment it would have been worth while to send over their own men with the consignment.

83. But the usual course of traffic is to have different owners of cattle on one ship, and there are often a large number of owners; would it be practicable to send men with each owner's lot of cattle; men, too, quite unaccustomed to the work. Would it not be good for the discipline and for the safety of the ship, for the ship owner to provide those?—I am hardly qualified to give an answer to that, but I should say that it would be better for the owners to have their own men to look after their animals.

84. Even if the men were not accustomed to the sea?—If a cargo is a valuable one I should think it would be worth looking after by employing experienced men.

85. Is it not a fact that goads are used here in the Metropolitan Market, where they are called "spurs," and those spurs are recommended by the Humane Society in London, and they are prohibited from being more than one eighth of an inch long?—I cannot give you any evidence about that.

86. With regard to the gradients, do not the vessels in Dublin lie alongside the quay wall, generally speaking, for receiving cattle?—I have only visited Dublin once.

87. Is it not a fact that it is in the river that the cattle are loaded?—They are loaded in the river near the North Wall.

88. And that river is subject to the fluctuations of the tide, and at low tide the gradient is very steep?—Yes, very steep.

89. Is it not a fact that there is no port of the United Kingdom like Liverpool for minimising the gradients? Is not there a landing stage in Liverpool half a mile long?—Yes, there is a landing stage.

90. Rising and falling with the tide?—Yes.

91. Where practically the gradient is minimised to its lowest point?—The landing stage at Prince's Dock is.

92. Are they landed anywhere excepting in Prince's Dock?—Well, they were landed in Nelson Dock.

93. But that Nelson Dock is outside, and it has been long since discontinued, and it was never used except as a temporary thing, I understand. When they come into the dock, is not the water kept in the dock so as to have the dock always at about high water level?—Yes.

94. Consequently the gradient is as equal as it can be practically?—I understood that the gradients were steep at Prince's Dock, the landing stage at Liverpool.

95. But you mentioned the dock board in Liverpool—the gradients of the dock board at Liverpool?—I do not think so. I will read it to you again. "Through the 'gradients at places of embarkation and debarkation' being too steep." I never mentioned Liverpool in that respect at all; but I mentioned Liverpool through the defective arrangements of the Dock Boards at Liverpool and Glasgow in not providing proper landing stages and reception lairs.

96. Landing stages, did you say?—Yes, landing stages.

97. How does that come on the Dock Board? Is it not a fact that where the City of Dublin Company have their place it has been there for, I suppose, 50 years?—Yes!

98. And that it is impossible to get more accommodation at that particular spot. Is not there any quantity of space on the dock estate of Liverpool, where there is plenty of room, if the City of Dublin Company wanted to bring their ships there?—I believe the Liverpool Dock Board are going to make a fresh landing place altogether.

99. They are increasing it at the present moment, and I suppose there is quite a very large proportion of the Irish stock coming into the Clarence Dock, and there happens to be in the very narrowest place an electric railway, and a dock railway, and a railway for goods, and it is in the midst of these that the cattle are drawn. But it does not rest with the dock board, because the dock board have ample accommodation. As to the ventilation of the ships, do you approve generally of the ventilation of those ships?—I think so, now.

100. It has greatly improved of late years, has it not?—Greatly improved.

101. You have seen the shifting boards on board those ships, and you consider them strong enough?—Yes; I have never heard of any accident arising from the boards breaking on board the Irish steamers.

102. (*Mr. Field.*) You furnished the Committee with these documents, where you say with regard to legislation for the transit of cattle in 1869, there were three major Orders first, for ensuring to animals brought by sea to ports in Great Britain a proper supply of food and water during the passage and on landing. Your business is that of a travelling inspector?—Yes.

103. Have you ever travelled across the sea from Ireland to England or Scotland?—Yes, from Dundalk and Dublin.

104. Have you ever seen the animals get a proper supply of food?—Yes, at Dundalk.

105. You say, "During the passage and on landing"; did you ever in the course of your experience see cattle being fed on a voyage?—I cannot say that I have; I have not travelled in Ireland. Of course, speaking of this side, I do not believe that they are fed. I do not know about Ireland.

106. So that as far as your observation and experience go as a travelling inspector, you are not able to give evidence as to whether a proper supply of food and water is provided?—I think it is provided.

107. You cannot speak to that from your own actual observation?—I can give you the information that it is provided at Liverpool, but the owners do not take advantage of it; they drive them straight through.

108. Are we to understand that as the net result of your observation, this is a law which is more honoured in the breach than in the observance?—Simply because the owners race the cattle through to get them to their destination.

109. Do you know that the company provide any supply of water?—Yes, the railway companies at Liverpool do.

110. Now with reference to your second Order, for protecting such animals from unnecessary suffering during the passage and landing. Have you been ever across to see these cattle suffer?—No.

111. Then you are not able to give any evidence?—No.

112. What are the duties of a travelling inspector when they do not see to the cattle going across occasionally?—My duties are not to go to Ireland.

113. Is it to see the cattle when they come here?—Yes, amongst other duties.

114. Have you observed any sign of suffering in the cattle when they arrive from Ireland?—As a rule they arrive in fair order.

115. Fairly good condition?—Yes; of course when the passage is very rough they look dirty.

116. Do you think that the condition of Irish cattle would compare with that of Scotch or American cattle?—I do not think that they do with the American cattle; but then the American cattle have more rest on board.

117. Are we to take it as a logical conclusion of your evidence, that the cattle that come from Ireland are not so well handled in transit from circumstances over which there is no control as those coming from America and Scotland?—I do not think that they are.

118. I got to-day, from a gentleman belonging to an association in Middleton a note in which he says: "The Scotch and other cattle command at least 5s. to 10s. 'more because of the bruises, and we shall give much more for them at any time'; do you think that is correct?—I believe it is, but of course I cannot speak from my own personal knowledge.

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119. I may take it as a net result of my questions that your belief as a travelling inspector is, that an animal being carried from Ireland causes a depreciation, as mentioned in that letter, of from 5s. to 10s. a beast?—I am not sure whether it is not that the value has depreciated by the way they are knocked about by their drovers in Ireland.

120. That the depreciation is there?—Yes, and by the drovers when they come to this side as well. I do not think it is due to the shipping companies.

121. The third recommendation in this 1869 legislation is, "For protecting animals from unnecessary suffering during inland traffic," that is to say, on the railway. Are you aware or not from your knowledge as a travelling inspector that pens are provided for all the cattle in England?—For all in England.

122. Have you had any experience of undue detention and long delay of cattle?—No.

123. Now as to that part, I find in the report of the Committee of 1870, page xi., the regulations relating to persons bringing animals into ports in Great Britain, "(1.) All the space used for carrying animals shall be divided into pens by substantial divisions; each pen shall not exceed 9 feet in breadth or 15 feet in length"; is that carried out?—Yes.

124. "(2.) The floors of each pen shall be provided with battens or other footholds; and ashes, sand, sawdust, or other suitable substance shall be so strewed on the floors of the pens, and on the decks and gangways as to prevent the animals from slipping." Have you been many times on board vessels and seen this carried out?—Yes, frequently in Liverpool, but we have not to do with Ireland.

125. I have seen them. Then the fourth recommendation, "If the animals are carried in an enclosed place, provision shall be made for its proper ventilation by separate inlet and outlet openings, of such size and position as will secure a sufficient supply of air in all states of weather." Is it within your knowledge that there are many instances of cattle having been smothered from the want of this proper ventilation?—No.

126. Then you have no knowledge of some of the recent occurrences?—I hear of them sometimes.

127. Has it not come to your knowledge that there are actions at law by certain companies by reason of the fact of the cattle being smothered on the voyage?—No.

128. You have no knowledge of that?—No.

129. Is there any provision made on board the ships for cattle that may get knocked down in the ship. Are there any trimming pens—as a general rule there are trimming pens?—No.

130. Have you heard of any complaints of overcrowding upon the boats?—There is overcrowding. I could read the evidence of the inspector at Liverpool, and I could read you the evidence of the men.

131. Now with regard to the undue detention of the railway and shipping companies, and with regard to these contract notes, you have been asked questions about these contract notes, and you have given it as your opinion that that was one of the reasons of undue detention; do you think that the fact of a carrying company being able to contract themselves out of the Act, or by the payment even of a small rate, is a reason why they would be less careful of the carriage of the cattle?—I simply recommended that on the evidence I received from large importers.

132. Have you had any personal experience of your own?—No.

133. If you were a cattle importer, would you expect the shipping company to take the same care as if they were liable for the amount that the cattle were worth?—I cannot say; I am not an importer.

134. But if you were in that position?—But I am not.

135. What are your duties as a travelling inspector?—To carry out the orders of my superior officers.

136. Are the orders of your superior officers supposed to be contained in these Orders here that I have read out?—Yes, amongst others.

137. What steps have the travelling inspectors taken, as a matter of fact, in England and Ireland to carry out those Orders. Have you ever given reports to the Board of Agriculture, or the Privy Council, or are we to take it that you have merely an ornamental com-

mission to go about the country, and that the cattle and stock-owners are to complain themselves?—I have performed my duties.

138. I want to know how they are fulfilled?—I do not think I am obliged to answer this question.

139. What steps have the inspectors taken to carry out those legal recommendations that you put before us in documentary evidence?—The inspectors do not legislate; they have no power of legislation at all, they simply carry out their orders.

140. I am asking what steps have you taken to carry out those orders?—I have taken every step.

141. In what way?—In visiting ports and reporting to the Board, my superior officers.

142. To the Board of Agriculture?—Yes.

143. Then the lapse of action which has caused this inquiry does not result from your want of report, but rather from the Board of Agriculture not acting on your reports; am I correct in that assumption?—Well, I really cannot say.

144. (Mr. Smith.) On this report in 1889 that you quote from, I understand nothing has been done by the Board of Agriculture or by the Government?—Nothing by the Privy Council.

145. Then by the Privy Council, upon it, do you consider that anything has been done by the steamship companies and the various people affected?—A great deal has been done by the steamship owners.

146. Since that report?—Yes.

147. You do not think that report is exactly correct as to the circumstances of to-day?—I do not think that it is as regards vessels. I think that it has improved very much.

148. It has improved very much, so that you and the other gentlemen who give reports on it would not be taken as expressing the exact facts of to-day in that report?—Certainly not. I think the shipping companies have improved their vessels very much indeed, in Liverpool and every other port.

149. I do not know whether you have read Major Tennant's report, which is extremely interesting?—Yes.

150. I want to understand about these regulations of the ships; is it your business to look after the regulations and what is done on board the ships?—Certainly.

151. It is not the Board of Trade?—No, it is the Board of Agriculture—the inspector of the Board of Agriculture.

152. Are you concerned with the beasts in Ireland?—Not at all.

153. It is the Irish Privy Council that deals with them until they get into the English port?—Yes.

154. Then as to the animals crossing, that would relate more to the Irish?—It would.

155. They are loaded on that side, but supposing there is a complaint of the unfitness of the ship, does it go to you, or to the Irish Privy Council, or to the Board of Trade?—It probably would come to both; when it arrived at Liverpool it would come to us, and when it started from Dublin it would be to the Irish Privy Council.

156. But the Board of Trade has nothing to do with it?—No, not as regards carrying cattle.

157. Not as regards the carrying of cattle across. Have you any knowledge of the treatment of the beasts on the Irish railways?—No.

158. You were over in 1889, but you have not been there since?—I did not see any railway; I came over with some cargoes of cattle to see how they treated them on board ship.

159. Sir William Kaye drew your attention to the provision of the inspection about the Irish ports; you have no knowledge about that?—I have none.

160. Then as to the steamers, are there no Scotch drovers in the crew of the steamers?—There are. I believe most of the shipping companies have two or three cattlemen, they take charge of them as a rule, so I am informed at Liverpool.

161. Then do you say there are not enough of those cattlemen to see that the beasts are treated in a sensible way?—I should say there are hardly enough, certainly not for a large cargo. There may be sufficient for a small cargo, but in July and August there are hardly

enough. That is the reason that I advise that the owners—the consignors—should send their own men.

162. Then with regard to the landing stage, are you acquainted with Glasgow?—Yes.

163. Have you seen the Broomielaw?—Yes.

164. What do you think of that?—I do not think it is as bad as other places, because they have long gangways. But it is a place which is always reported upon because the cattle are sorted amongst the luggage.

165. Are you acquainted with the landing places at Shieldhall?—Yes.

166. Do you think it would be an improvement if the Irish cattle were landed down there?—They would not be allowed to be landed there. Shieldhall is the other side of the water.

167. You are aware that Shieldhall is the place where the Canadian cattle were landed before the prohibition?—Yes, it would be a decided advantage for the cattle, I think.

168. Do you see any difficulty?—The trade seem to object to it; I have made inquiry in Glasgow.

169. You did press that suggestion?—Yes.

170. But you found that the trade objected?—The trade objected.

171. (*Major Tennant.*) I think you said that the regulations which came into force about 1869—?—In 1871, I think.

172. Had in effect remained in force up to the present day?—Yes, up to the present day.

173. On the whole those regulations have been fairly successful, have they not?—I think so.

174. And cases of extreme suffering or of considerable loss have, so far as you know, been comparatively few?—Yes.

175. As to the whacking of the cattle which you described as taking place throughout the whole of the journey, I understood you to say that from your point of view it is pretty fairly distributed throughout the whole of the journey, whether during the land journey or during the water journey?—Yes.

176. And not excessive in any one particular part of the journey, but that it is about evenly distributed?—It is about evenly distributed.

177. And that cases of distinct cruelty are very exceptional?—Very exceptional.

178. In fact that the whacking which the animals get is what may be regarded, generally speaking, at any rate a portion of it, as necessary to urge the cattle forward on their journey?—A portion of it.

179. It may be excessive, I understood you to say, in some cases, and it may be applied with instruments which are not very desirable?—Yes.

180. But still, cases of extreme cruelty are altogether exceptional?—Yes, I should say so.

181. Now as to the question of contracting out, which you described when you spoke of the detention that resulted from contracting out, what you meant to say was this, was it not, that owing to the fact that the shipping and railway companies contracted that they should not be liable to loss from detention, the companies, you thought, were not so careful to be expeditious in the conveyance of the animals as they would have been if their liability at common law as carriers had remained in force?—Yes, these representations were made to me during my inquiries.

182. In your general inquiries that was the effect produced upon your mind?—Yes.

183. That if there was no such contracting out the carrying companies would carry more expeditiously?—They would be more careful, I was told.

184. Now as to the use of the goad, I think you were asked by one of the members of the Committee whether the goad was permitted; are you aware of any law that prohibits the use of a goad either in Ireland or in Great Britain?—No, I am not.

185. You do not know of any such law?—No, I do not.

186. Then do you think that if a goad was used and was so constructed as to be a reasonable goad, it would decrease the sufferings of the animals were it used in place of the ordinary stick or rope which is so often used?—I think it would decrease ill-treatment greatly.

187. You think that the use of the goad would decrease the suffering?—Yes. *Maj. Landon.*

188. You spoke of the steep gradients at Liverpool and also at Glasgow, did you not?—I did not name any places. I spoke about the gradients at the places of embarkation and debarkation being too steep, but I did not name any particular places. They are very steep at Glasgow and at Liverpool, at the Nelson Dock.

189. When you say they are steep at Liverpool, you mean, do you not, from the floating landing place to the quay when there are low spring tides; that is the time to which you particularly refer, is it not?—At Prince's Dock it is not so much in the immediate landing of the cattle as it is on the bridges that lead up to the road; the cattle have to go up some swing bridges, and the gradient is very steep.

190. From the floating landing place up to the quay?—Yes.

191. In certain cases, that you think, is steep?—I think it is very steep at times.

192. But you think it might be improved, do you not?—Yes, I think so.

193. And you think it might be arranged that the gradients should be made considerably less?—The Liverpool Dock Board, I believe, are making arrangements to improve the whole landing of Irish cattle.

194. You were asked, amongst other things, as to feeding cattle on board ship; are you not aware that in certain ships, for instance between Cork and Bristol, cattle are fed on board?—I was not aware of it.

195. I take it that it is within your knowledge and within your experience that where cattle are very badly packed in pens on board ship, and where the journey is a short one, it is practically impossible to feed cattle on board, and that they would not eat?—I do not think it would be necessary.

196. It would not be practicable, would it, during a short voyage?—No, it would not be practicable from Dublin.

197. If during bad weather the cattle were packed so loosely as that they would be likely to feed, in that case they would suffer in bad weather from the motion of the ship, and they would really be considerably better off if they were fairly tightly packed than if they were very loosely packed?—Yes.

198. They are better for being tightly packed in bad weather?—Yes, I am told so.

199. Now, a question was asked you as to the comparison between the carriage of cattle from Ireland and of cattle from America; is it not the fact that all the cattle that are carried from America are of very considerable value?—Yes.

200. Some of those that come from Ireland are not of anything like equal value?—No; there are a great many stores.

201. Supposing that you were to charge a proportionate price for transit for these small stores that come from Ireland and gave them equal care with American cattle, do you think that that would very materially add to the cost of these small stores when they arrived in England?—I should say it would.

202. Materially?—Materially.

203. Therefore it would in effect, or might in effect, seriously interfere with the importation?—Yes, it might deter the importation.

204. Then is there not this difference also, that very often, particularly in the short voyages from Ireland, rapidity is of great importance. If you were to pen them with the same extreme care it would cause considerable delay, and in that may increase the expense, would it not?—Yes, I should think so. I have always heard the owners of store stock protest against their being tied up.

205. They do not like it?—They do not like the animals being tied up, as they never have been tied up.

206. There has been some mention made of the duties of the inspectors to the Board; the duties of the inspectors to the Board are not confined entirely to questions of transit, are they?—No.

207. They have other very important duties besides those connected with the transit?—Yes, very important ones.

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Maj. Landon. 208. For instance, in your own position you have been acting as superintending travelling inspector, and your duties are very largely connected with the stamping out of disease in the country, are they not?—Yes.

209. That, you may say, is one of your most important duties?—Yes.

210. Now, as regards the importation of animals from Ireland, your duties do not include the passage to England?—No, they do not.

211. You have no instructions to include that or to travel with the cattle?—No.

212. But your instructions are to this effect, are they not, that whenever in conjunction with your other duties you are able to observe the method by which the animals are landed on this side, and as to the general method in which the transit is carried on you are to take advantage of the opportunities as they occur to make yourself acquainted with what is going on as regards the landing of Irish cattle at the ports?—Exactly so, which I always do at Liverpool and other ports.

213. But generally in connexion with your other duties?—In connexion with other duties.

The witness withdrew.

Capt. G. S. MacIlwaine, R.N.

Captain GEORGE S. MACILWAINE, R.N., called and examined.

219. (*Chairman.*) You are a travelling inspector of the Board of Agriculture, I believe?—I am.

220. How long have you occupied that position?—For nearly four years.

221. You have not had a very great experience of the Irish cattle trade, I believe?—No, not a great deal.

222. Is your captaincy naval or what?—I am a naval officer.

223. You have not had much experience then of the Irish cattle trade, but you have the peculiar advantage of naval experience and of a knowledge of shipping?—Yes, that is the case.

224. You do not think it fair to compare the regulations for the transit of cattle from Ireland with those in vogue in the Atlantic?—No, I think not; I do not think the two touch on any point.

225. Will you please mention the difference in principle?—In the first place, the ships engaged in the Atlantic trade are large and well fitted, not more than five animals are ever carried in one pen, all animals are tied by the head, and in that direction which enables them to most easily bear the motion of the ship, which in such large ships is practically in one direction, that is to say, rolling. Whatever may be their sufferings before they reached their ship, there is no doubt that once on board the Atlantic ships animals are well cared for, fed and watered regularly, and can stand or lie at pleasure; they are disembarked without trouble, and are immediately again well housed and fed and watered until slaughtered. The consequence is that as a rule they land in this country in first-class condition.

226. The American cattle have to travel very great distances before embarkation, do they not?—Yes.

227. Do you know anything about that personally?—No, I do not; I have never been on the other side, and have never seen what goes on there.

228. Now then, to go back to the Irish trade; you think it has been conducted under quite different conditions?—The conditions are so dissimilar, that I do not think there can be any comparison. The boats running from Ireland are small, and consequently pitch almost as much as they roll. It is more difficult to get animals in and out of them. When the animals get on board they are neither fed nor watered, and if carried in any number, they are not able to lie down. They are not tied by the head when carried below, and instead of five cattle there are sometimes as many as 12, probably more, in a pen; and then they are only on board for a few hours as against days. The consequence is, that speaking more particularly of Glasgow, where my experience lately has been principally derived, Irish cattle and pigs, if slaughtered on landing, do not command a good price as compared with animals fed in this country.

229. We have had reference made to Scotch cattle. I suppose there are a certain number of Scotch cattle sea-borne, are there not, or is all the Scotch cattle trade

214. If you saw anything distinctly wrong which you believed to be contrary to the regulations, you would make a special report to the Board of the circumstance, would you not?—Yes.

215. With a view to communication from the Board being sent to the owners of the vessel or any other person who had failed to do his duty, in order to set it right?—Yes.

216. As a matter of fact many things have been set right, have they not?—Yes, and frequent reports have been sent.

217. I daresay you know the section in the Act of 1878 to which I am going to refer. In section 41 of the Act of 1878, is it not laid down to this effect that, "Every local authority shall execute and enforce this Act, and every Order of Council, as far as the same are to be executed or enforced by local authorities." Now do you not understand that that includes the duty of the inspectors of the local authority to look after the matter as regards the transit of animals just as much as it is your duty?—Yes.

218. And as well as the Board they are responsible for seeing that these matters shall be properly executed?—Yes.

by rail?—There is no sea-borne Scotch cattle trade that I am aware of, that is to say from one Scotch port to another.

230. The result is, you say, that the value of the Irish meat is decreased considerably by the treatment it is subjected to?—I think there is no doubt about that.

231. Does that remark apply to one class of cattle, or to pigs, sheep and swine as well?—I would apply that remark both to cattle and to pigs.

232. There is a certain amount of damage done by the sticks, is there not?—Yes, and by the cattle being knocked up against one another, and knocked up against the partitions and the ship's side on board ship.

233. Now will you please let us have generally the regulations governing the actual trade, so far as the sea transit is concerned, which the Board of Agriculture have now in practical operation?—These regulations are to be found in the red book on your right, which contains the Animals Order, and are particularly referred to only in one place, the Animals Order of 1836. The articles which govern the trade, so far as the Board of Agriculture are concerned, commence with Article 116, and go down to Articles 121 and 122.

234. Are these rules in force? Can you practically carry them out?—Yes, there is no doubt they are enforced.

235. They provide for a certain number of animals only being carried in each pen, is that done?—That is not an article; the size of the pen only is legislated for; that is a suggestion on my part.

236. Then what is your suggestion on that?—The size of the pen is 15 feet by 9 feet, according to the Animals Order. I think that is too large; and when it results in 12 or more animals being carried in a pen, I think the whole seat of the mischief is to be traced to that fact that there are too many animals together. The suggestion that I would make on that point would be that the number of animals in each pen should be limited.

237. (*Mr. Field.*) Are you referring to oceanic transit now?—No, entirely Irish.

238. (*Chairman.*) You would have the number limited to five, I think?—I think so.

239. Then you have a suggestion about the fittings to these pens, have you not?—Yes. Might I just refer to the article in the Animals Order? The words of the order are that "every place used for animals on board a vessel shall be divided into pens by substantial divisions."

240. (*Mr. P. Smith.*) Is this the Animals Order of 1836?—1836, Article 166; and then "that each pen shall not exceed 9 feet in breadth or 15 feet in length." I think the pens could be reduced in size so as to hold four or five animals—of course that depends on the size of the animals—without entailing any very great extra expense upon the people who fit the ships.

Then I think some addition is necessary to that Order with regard to the substantial nature of the fittings of the pens. The Order for Atlantic cattle says that the fittings are to be of such a nature as will withstand the action of the weather and the weight of the animals thrown against them. It would seem to me that such a further regulation ought to be made in the matter of the Irish boats, and that the fittings should be of such a nature as would withstand the weight of the animals thrown against them.

241. Would you in making any rule on that subject be inclined to follow the model of the American rules which lay down exact sizes?—In that one particular, yes.

242. You would lay down the exact sizes?—No, I would lay down the number of animals to be carried in each pen, and then merely add that the pens should be of such a nature as would withstand the weight of the animals being thrown against them.

243. My object in asking that was that I think they give, for instance, the dimensions in the American rules?—Yes, they do.

244. You would not do that?—I think not.

245. I believe you suggest that experiments would be necessary?—No doubt they would. It would be a fresh departure, and it would be necessary to see how far the thing succeeded before going very deep.

246. Then you would not be for relieving the ship-owners of responsibility on that point by stating the precise dimensions; you would simply require that the pens should be sufficiently strong for your purpose?—That is all, I think.

247. Then coming now to the question of tying the animals by the head; what is your opinion about that, and how would you have the existing regulations modified?—Tying by the head seems to me to be a very difficult subject to legislate for, the ships being so small they pitch under certain circumstances as much as they roll, consequently whether you are going to tie an animal to withstand a pitching motion or a rolling motion, if tied for one it will not suit the other, and therefore until the experiment of the reduced numbers in each pen which I suggest were tried, I would not at present touch the question of tying up by the head at all.

248. Then in your opinion the question is affected also by the age of the animals?—That is another difficulty. Animals which had never been tied up before would certainly be very difficult animals to tie up for the first time under such conditions as obtain on board ship.

249. Then in the first place I understand you would suggest that the experiment of reducing the number in the pens should be tried before going on any further? That is so.

250. A large number of animals are tied just now, are they not?—I am aware of that. In a great many ships in the slack time animals are only carried on the main deck—they do not go below at all. When stood on the main deck as a rule they are tied by the head.

251. Are they tied in any other parts of the ship?—At times, I believe; but that is a matter that I cannot speak of, because I have never crossed with these animals, and on arrival at a port one cannot get on board in time. They are cast off in the river, and prepared for disembarking.

252. I suppose you cannot say whether different practices of that description are adopted by different companies?—I am afraid I cannot of my own knowledge.

253. Now we come to the question of ventilation. Will you please let us have your views upon that?—The regulation with regard to ventilation is simply this: "Every such place if enclosed shall be ventilated by means of separate inlet and outlet openings of such size and position as will secure a proper supply of air to the places in all states of weather."

254. That throws the responsibility again upon the shipowner?—Entirely.

255. Do you think that that is the best arrangement that can be made, or have you any suggestion to make with regard to it?—It is a question that I have devoted a good deal of time and attention to; in fact, I have gone the length of reading a paper on the subject.

256. Give us your views then?—There is my paper here. I do not know whether it will be worth putting it in.

257. I think it would be better that you should give generally your own *resumé* of it, because the Committee will have a number of documents to read?—The object of my paper was to endeavour if possible to get some standard of ventilation laid down. It seems to me no use saying that you are to properly ventilate unless there is an agreement of opinion upon what proper ventilation is.

258. What is the system of ventilation you would suggest?—Until there is some standard in the way of so many cubic feet per head per standard of time, I do not see how any opinion could be formed as to whether ventilation is satisfactory or otherwise.

259. What is the standard that you suggest?—I have suggested a standard that has got me into a good deal of hot water. It certainly is very high. I found nobody could agree with me.

260. What was the standard?—It was 26,000 feet per head per hour.

261. (Mr. Cullen.) Of air?—Of air.

262. (Chairman.) What is the average number of feet per head per hour at the present moment?—It is impossible to find out; nothing is laid down; the conditions vary to such an extent that at one time you may have a gale of wind blowing through the hold, and at another time you may have the most perfect stagnation which will lead to suffocation.

263. Why did you adopt that particular figure?—I worked it out. I gave chapter and verse for what I say it should be.

264. Will you please tell us?—The way I worked it out was this. All physiologists agree as to the amount of air required for a human being; they put that amount at about 3,000 cubic feet per head per hour for the human being, the ordinary man; then I estimate that a bullock is eight times the size of a man, that his lungs are in proportion to his size, that the exhalations are in proportion to his blood and his weight, which are proportionate to his size, as compared with a man, and in general terms that being eight times larger I require eight times more air for him.

265. Can you tell us what is the amount required by the Board of Trade on board ship for the accommodation of seamen?—There is none.

266. There has been for seamen, surely?—There is a cubic space, but I have inquired of all these offices, Board of Trade, the School Board, and everywhere else, and I find there is no such thing as a standard of supply. They all mention cubic space, a thing which has nothing whatever to do with ventilation.

267. Then how do you propose to obtain this, by what system of ventilation?—Below there must be a system of mechanical ventilation to get anything like satisfactory results on board ship. When I say below, I mean under hatches.

268. Do you propose to do it by exhausting the foul air?—In general terms I think to endeavour to exhaust the foul air is a better plan than to endeavour to force in fresh air.

269. Are you aware of any similar system of ventilation being adopted in passenger carrying ships?—Yes; nearly all passenger ships now have mechanical ventilation.

270. Is there any rule laid down by the Board of Trade here as to the amount of air?—No, none; you will find it nowhere, so far as my experience goes. My object in establishing such a point as that, if I can establish it, is this, that I am sent on board ship to investigate the ventilating arrangements. If there is anything like a standard I can at once tell by the outlets and the inlets whether it is possible, under any circumstances at all, to supply anything approaching the standard through those openings; but if it merely lays down that the ventilation is to be of a satisfactory kind, and there is no condition attached to the meaning of the word "satisfactory," then the man may have an outlet of six inches and an inlet of six inches, and he may say that is enough, whereas I would differ from him very widely.

271. Have you had any prosecutions for unsatisfactory ventilation?—There was one ship suspended on a report of mine some years ago; a report I made at Newcastle. Some cattle were confined in a

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compartment in which there was absolutely no outlet or inlet.

272. Have you had any cases come under your notice in which animals have been smothered for want of ventilation?—Yes, that case.

273. I have seen it mentioned that animals have suffered from blindness in consequence of ammonia in the holds. Have you seen anything of that sort?—Never; but I have been below in ships in which the atmosphere has been so bad that I am quite prepared to believe that under little worse conditions animals would be blinded and killed, and anything else.

274. The attendants, of course, have to share that foul air with the animals?—I am afraid not always.

275. They are supposed to?—Yes, but in this way they escape it. I have known ships to be detained in the river in Liverpool when there was no accommodation for them at the Foreign Animals Wharf, and that is the time at which the ventilation is, of course, worst—a calm in the river and a ship not moving, then there is immediately a block below, and that is just the time at which all the attendants are on deck to see the port, having come in from sea, and so on. I have been below more than once in Atlantic ships under those circumstances and found the animals most sadly neglected. Even the ports which might have been opened I found closed, ventilators which might have been trimmed to allow a little draft up or down have been the wrong way, and so on.

276. With even the prescribed amount of ventilation in the hatches they would require to be battened down or to be closed in rough weather, would they not?—Yes, they would; but the ventilators themselves never would be closed; the hatchways would perhaps be covered, but the ventilators would not be closed.

277. You think that there should be some special arrangements which you mention in your *précis*; would you please mention them to the Committee?—With regard to ventilation?

278. Yes; where the alleyway exceeds, say, 50 feet?—That regards the class of ships that is now plying in the Glasgow trade particularly. Cattle are carried there on what is called the main deck, which is an alleyway under a deck and on each side of the engine compartment; it opens into the air aft and it opens into the air forward; but it is so long that with the wind aft travelling at the same rate that the ship would be travelling I am perfectly certain that there must be very poor ventilation in those alleyways situated as they are on each side of the engine room.

279. I understand your idea is, that it would be a good plan to license all the ships carrying Irish cargo, to investigate all the losses which can be attributed to insufficient ventilation, and to suspend the certificate of the ship for so many days where insufficient ventilation was proved?—That would be my idea, and in that way I would throw the entire onus of responsibility on the shipowner. Instead of regulating for a number of cubic feet per head per hour I would license every ship carrying cargo, and then I would investigate when any ship came in with a loss of cattle which could be distinctly traced to want of ventilation, and if it was established that the loss were owing to the want of ventilation then I would suspend that ship's certificate until the ventilation was put into a proper order, or for so many days.

280. In whose hands would be this power of suspension?—In the hands of the Government—of the Board of Agriculture distinctly.

281. Your next point, I think, is with regard to the supply of food and water, is it not?—Yes, the regulations with regard to the supply of food and water are that on embarking and disembarking water is to be supplied, and on disembarking food in addition. Those are Articles 121 and 122 of the Animals Order.

282. (Mr. Field.) This applies to the cross-channel transit?—Yes, altogether.

283. (Chairman.) You mention in your *précis* that it is understood that cattle kill better if they have not been fed or watered for 24 hours?—That is the custom of the killing trade, so far as I know.

284. Have you any opinion on that yourself?—No, I would rather not express any opinion; that is a matter of opinion for experts.

285. Then there is another opinion that you refer to, namely, that if an animal has been without food for some time it is not a good thing to allow it to drink

water before it is fed?—That again I have from experts. What I mean by that is this: that where animals land, say in Glasgow, both hungry and thirsty, and are going to be soon slaughtered, a butcher will not like to see his animal led to the water to fill itself with water and get no food—that, in general terms, it would be better for the meat that there should be a small supply of food before the animal is allowed to drink after a long fast.

286. That does not apply to store cattle?—No, not at all.

287. You think they should be both fed and watered before shipment?—I would think so.

288. Then you have a proposal on that point. You propose a certain number of hours detention, I think?—That seems to me the only practical way of meeting the difficulty.

289. Would you explain why?—I should propose a detention of a certain number of hours—not less than six—at the port at which the cattle were embarked. I should then insist on a supply of both food and water, which the owner or his agent could take advantage of or leave as he pleased, the responsibility resting with him if the animals were exhausted from want of food or water. I think in that way you would ensure the animals, at any rate, having an opportunity of being supplied, which is all that ought to be done, I think.

290. Then, on their arrival on this side of the Channel?—Then I think water; if they were detained on the other side, and had food and water, I think it ought to be sufficient to give them only water on arrival on this side—to be at the option of the owner as to whether they were to have it or not.

291. What is the average duration of the transit?—To Glasgow I do not think it ever exceeds 12 hours; no doubt other passages would run to more—perhaps 15.

292. (Mr. P. Smith.) Which ports, to Glasgow?—I do not think any cattle running to Glasgow at present are at sea for longer than 12 hours.

293. From Sligo and Cork?—Do they come from Sligo and Cork at present?

294. Yes?—Unfortunately I have not been regularly in this business. My experience is gained more casually than regularly.

295. (Chairman.) I think you may see that 12 hours is rather short, especially if you take in the time occupied between their embarkation and their disembarkation. However, you propose that they should get food and water before their embarkation, and water only after?—That is my idea.

296. Then you, I suppose, as everyone else, would like to reduce the use of the stick?—Yes, I would go so far as to say I would like to see the total abolition of the stick—the prohibition of its use.

297. I believe you are in favour of the use of the goad?—I am, very strongly so.

298. Has it been recommended by a good many people?—It has been recommended by two men upon whose opinion I place more reliance than perhaps anybody else's I have ever spoken to on the subject; those are the late Superintendent of the Foreign Animals Wharf at Liverpool, and the present Superintendent of the Foreign Animals Wharf at Glasgow. Those men were both very strongly in favour of the use of the goad entirely.

299. Some questions were asked of the last witness as to whether the use of the goad was at present illegal or whether there was anything to prevent it. Is there, do you know?—The only thing I have on the subject is a letter here which Mr. Burns gave me the other day in Glasgow.

300. What Burns?—Of Burns Brothers.

301. (Mr. Field.) The shipowners?—The shipowners in Glasgow. They sent a goad over to Ireland for investigation, and proposed to use it in Ireland, and the answer they got was: "Gentlemen,—I have been requested by the Committee of the Ulster Society for the Prevention of Cruelty to Animals to inform you that they have carefully considered the matter of the goad, and they think it such a barbarous instrument that they could not think of permitting its use." With exactly the same object in view I would use it.

302. (Chairman.) Of course the Society for the Prevention of Cruelty to Animals has not the power of

dictating?—Not of preventing, but they have the power of prosecution.

303. Has there been any case of conviction for cruelty by the use of those goads?—Not that I have ever heard of.

304. As the Messrs. Burns suggested it, is it in use in Glasgow?—Yes, they use it in Glasgow.

305. Therefore there can be no law against it there?—No, there is none.

306. Is it used in any English port, do you know?—It is used, certainly; it has been used in Liverpool. Whether it is used there now or not I do not know.

307. (*Mr. Field.*) It is used in London at present, is it not?—I have seen it used in London, I mean at Deptford. When I speak of a goad, I mean a goad with a very blunt point which cannot under any circumstances puncture the skin.

308. (*Chairman.*) Then I understand you think that some good might be done by training the men employed to look after the cattle?—I think so. I think that the quieter animals are kept the better. It seems to be these men's business to go among them and excite them as much as they can by shouting. I think if that could be put a stop to it would facilitate matters, and that the animals would be more easily handled if kept quieter.

309. That is a matter which you cannot bring about by the action of the Board of Agriculture, I presume?—No, it is a mere suggestion.

310. Is there any other suggestion you wish to make before the other members of the Committee examine you?—No, I think not.

311. (*Major Tennant.*) You mention a goad as being a good and useful means of urging cattle forward, but you say it should be of a particular description, that is, it should not be sharp?—Yes.

312. And I presume you mean that it should not be unduly long, I mean the prod should not be?—Of such a nature as would not by any possibility puncture the skin.

313. Then I gather that you think there should be some provision for the description of the goad, that is so, is it not?—Yes, certainly, what is called in my late service a sealed pattern—a goad which would be approved, and it would then be the regulation description of a goad. All goads could be made to it. Messrs. Burns in Glasgow have them.

314. You suggest supervision, as I understand, how do you propose to bring that about?—It would be very difficult to legislate for, I am afraid, but by constant supervision.

315. Do you think that the inspectors of the local authorities at ports, if they chose to appoint inspectors under the Act to supervise matters connected with the landing of cattle, could exercise any control over the use of goads; would they not be able to exercise a useful influence?—I have no doubt they would, but I do not think their influence would go a very long way. I think it would be better done, as far as it could possibly be done, by men like ourselves—travelling inspectors, Government inspectors.

316. I had not the advantage of hearing your evidence with regard to the ventilation, but there are one or two points I should like to ask you, questions with regard to the mechanical ventilation; I think generally you are in favour, are you not, of the application of mechanical ventilation to the holds of vessels?—I think it is absolutely necessary.

317. Is it not a fact that where mechanical ventilation is applied, you would have to a very great extent to depend upon that ventilation, and you would very likely have considerably to reduce the number of cowls, would you not?—I do not think that would be necessary.

318. The actual deck area occupied by a mechanical ventilation, if there were no mechanical ventilation there, would accommodate a very large cowl, would it not, which would ordinarily supply a very good current of air?—Yes.

319. Now, supposing the mechanical ventilation broke down at a critical moment, say a ship was coming up the river and she was caught by a bad fog, and she had to anchor, and supposing that at that moment when the natural ventilation was interfered with considerably the mechanical ventilation broke

down, that would be a very serious misfortune would it not?—No doubt.

320. I have asked the question because I gather from what you say that it is not altogether an accepted fact that mechanical ventilation is good—there are differences of opinion about that point are there not? It is not generally accepted that mechanical ventilation is the best mode of dealing with the question?—I think it may be said to be generally accepted now, because all ships that I have lately seen have been provided with mechanical ventilation where a few years ago that was absent. The objections to the failure of the mechanical ventilation, of course, are very serious; but if there were any mechanical ventilation at all, my standard of ventilation is so high that any plan that I would propose would not interfere with the ordinary cowl ventilation or the hatchways; it would be entirely in addition to and above and beyond that.

321. Then you would still depend upon the direct natural ventilation by means of cowls to a very great extent, and you would only propose to supplement that actual ventilation by mechanical ventilation?—Certainly; my object is to get rid of the foul air by mechanical means, and the fresh air will find its way in by the usual channels of the cowl and the hatchway.

322. I do not know whether you have given evidence on this point, but if you have, please do not repeat it. I should like to ask you what your views are as regards wind-sails: it is a common practice, or was a common practice, I think, to use wind-sails very largely for ventilation which were put into the hatches of the ship?—Certainly.

323. Are those very useful, or more apparently good than actually good?—They are certainly not a thing to be depended upon.

324. Not to be depended upon?—No, and for this reason. The time that they are most useful is the time when ventilation is best, that is to say, when air is stirring. There are two kinds of wind-sails. I do not know if you know the wind-sail that is struck out at the port, a thing shaped so (*describing*). This is the side of the ship here; you stick it out of the port and it catches the wind and sends it through the port. That is a wind-sail in addition to the up and down canvas wind-sail which goes up and down the hatchway. Anything, whether wind-sails or anything else which tends to increase the amount of air provided to a lower compartment, is good; at the same time wind-sails are only useful when the air is moving. The faster the air moves the more effective the wind-sail; take away the wind-sail, and the faster the air moves the better the ventilation is without it; so that I do not place a great deal of store upon ventilation by wind-sails under any circumstances.

325. (*Mr. Smith.*) Have you travelled in cattle boats have you ever crossed in cattle boats?—Never.

326. Is there any gentleman whose business it is to do so?—Yes, two of the other inspectors, Major Landon and Mr. Sleeman, have both crossed.

327. Is it part of their business to cross frequently?—It was formerly, before the year 1886.

328. It is not part of their general duty?—No, we do not leave England.

329. It was before 1886?—We do not leave England except under exceptional orders.

330. Is that because of any clashing of jurisdiction with the Irish Privy Council, or because it has not been in the Orders?—I think it is because the two departments are separate; Ireland has its own department and England has its own.

331. Would not the most satisfactory way of finding out what the ventilation of the ships is be for some gentleman like yourself to be crossing in them frequently under different sets of circumstances?—No doubt it is the only way to find it out.

332. Do you not think it expedient that some gentleman with naval knowledge should be travelling backwards and forwards to see how the different ships are ventilated?—You mean to have a man always on board, always crossing and re-crossing.

333. I do not say always; frequently I say?—If my suggestion were adopted, that any failure of the ventilation (which can be easily investigated upon landing) were to be followed by the suspension of the certificate which I should make every ship carry, then I do not

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think it would be necessary to have somebody always on board, or even frequently.

334. I do not say always at all. I understand that your suggestion as to what you call failure of ventilation is only when there is the death of a beast or two?—Yes.

335. But very frequently, I take it, the beasts will suffer very much without death?—Yes, no doubt.

336. Would it not be satisfactory to have frequent inspections as to the average condition of the beasts coming over without waiting for a death and a suspension of the licence?—Yes, I have no doubt it would be a very good plan.

337. Of course you have the right as inspectors to go over whenever you like, and wherever you like, in these boats?—That is a point upon which I do not know that I should like to say one way or the other what the law is. I do not know of any power, as a matter of fact. I invariably make it my rule to go to the office in the first instance and say what I am going to do, and I have never been refused permission to go on board any ship under any circumstances.

338. But the question of ventilation you consider a pressing one?—Very.

339. The beasts do suffer considerably from want of ventilation?—I think so.

340. In the present condition of things?—Yes.

341. Now would such a scheme as you have proposed for ventilation be a very expensive matter?—Do you mean the fitting up of mechanical ventilators?

342. Yes?—I think not.

343. You think it would not add considerably to the necessary freight?—No; once installed there is no expense attaching to it. What I would do is to have some of these blowers—Roots' blower or Blackman's fan—which can be driven by the engines without any additional cost whatever; once installed there is an end to the expense.

344. The cost of the Blackman's fan is quite small, is it not?—Quite small.

345. Trifling?—17. an inch, roughly; an 18-inch fan you get for 18*l.*, and a 36-inch fan you get for 36*l.*

346. You think these blowers could be put on without largely raising the cost of the transit?—Yes. There are two systems of ventilation at present being used on two of the lines of the Glasgow boats. One is the Lees and Anderson, the other is the Roots' blower. The Lees and Anderson is a compressed air system, which is a very expensive installation. Messrs. Burns have the Roots' blower, and Messrs. Laird have the compressed air, which is, as I say, a very expensive installation. The latter may be arranged in such a way as to induce either an up or a down draught. It stands in the ordinary cowl ventilator, and it depends upon which way you turn a little nozzle, which is about the size of my fist. If you turn it down the compressed air is forced down; that creates a vacuum underneath here (*describing*), and the air rushes in at the top; if you turn it up it creates a vacuum in the other direction, and it induces a draught from the compartment it ventilates. That is the Lees and Anderson system. The other way is the Roots' blower, which, as its name implies, is a Roots' blower which forces air always in—it does not extract air at all. That is delivered by holes through a pipe which runs right away round the compartment to be ventilated, and has delivery holes, perhaps an inch in diameter.

347. Either of these systems, I suppose, if you had them in when there was any head wind blowing you would not need to use, but you could have them on when necessary?—Certainly.

348. You say they are used in a good many of the boats at present, I understand?—Yes, they are used.

349. Then you gave a certain figure in regard to the ventilation. Do you not think a more satisfactory test would be to go yourself and see what the air was like at the end of the voyage?—Certainly, that is the only practical test.

350. The only practical test?—Certainly.

351. You do not lay much stress on your figures?—No, certainly not, except as a basis upon which to work.

352. But to go into the hold after half a dozen different voyages would be the real test as to the

sufficiency of the ventilation?—Certainly; no doubt of it.

353. Then you state that the pens ought to be more substantial. Have you found any cases of pens carrying away?—Pardon me. I do not say that the pens ought to be more substantial. I merely think that it would be a good thing to legislate in that matter. The pens are substantial—all that I have seen of them—but it is nowhere laid down that they are to be anything more than of a substantial nature. That is a general wording, and I think it would be better to particularise a little more, and employ the words used in the Atlantic trade, which are that the fittings are to be of such a nature as will withstand the weight of the cattle thrown against them.

354. But you have not had any cases of pens carried away brought under your notice?—I have never seen any case in the cross-channel traffic.

355. Would these regulations about the size of the pen entail increased expense?—I do not think they ought to at all—in this way: take the alleyways of ships such as I have been describing, the width is constant, and it merely means whether you drop in a partition at 9 feet or at 3 feet or at 4 feet, and that could be provided for by a carpenter in one hour—he would fit up a ship into alleyways. In the holds, in the 'tween decks, it might be a little more difficult, but I do not think that it ought to entail practically any expense at all; it merely means a consideration of the original distribution of the pens and the compartments into which they were to be divided.

356. Have you anything to complain of about the hatchways of steamers—can the beasts get out through the hatchways?—There is no doubt the beasts find it awkward getting up from one deck to another, and very often from the ship to the landing place, but in general terms I do not think there is much to complain of. There are two points in connexion with that which I might mention. There are two ways of obviating that. Of course you cannot get over the difficulty of a hatchway, and a certain headway underneath, and an animal going up from one deck to another, but the discharge of cattle from a ship to the shore might be done in two different ways from what is at present done. I do not think either is feasible, but there are two to be considered. One would be to discharge the cattle into a lighter, which should be of the same height as the deck from which they came, then these lighters might be taken to some common landing place, which could be arranged to fit them again as regards height. I think that would add very much to the expense, and is scarcely to be considered, but still, that is a way out of the difficulty, which no doubt exists as to the steep gradients, of getting from a ship to the shore. Another plan would be to cut the quays so that a ship could always discharge her cargo at a certain part of the quay, and that when that was not wanted it should be boarded over, as is done now very frequently; for instance, at Glasgow at the Broomielaw. I do not think that is a practicable thing either. These are the only two ways, as far as I can see, of getting out of the difficulty of the steep gradients. I do not think there is much in the point at all, and I do not think from what I have seen that cattle have much to complain of in the gradients that they are obliged to use.

357. A question was asked you about sea-borne Scotch cattle. Are there not many beasts coming from Skye, and Lewis, and the north?—Yes.

358. In the Glasgow steamers?—There are a few, but I have never seen them. It is very seldom that our duty takes us so far north as these northern ports.

359. Coming south to Glasgow—arriving in Glasgow, I mean?—I have never heard of such a traffic.

360. Not with sheep?—There may be a little traffic in sheep. I am afraid my knowledge of the subject will not take me very far.

361. You never heard of any complaints in regard to them?—No, never.

362. Then in regard to landing at Glasgow, you have seen these beasts landing in the Broomielaw?—I have occasionally.

363. What do you think about it?—I think there is an unnecessary amount of stick, and an unnecessary amount of noise, that is all.

364. What do you think about Shieldhall—you know the Shieldhall landing?—Yes, I do; I do not think that it would be in the animals' interest to land them

at Shieldhall, and I think it would be better for them that they should land at the Broomielaw; they would have a very long railway journey, or a long walk to do. I do not know what would happen to them when they landed at Shieldhall, unless the railway was brought closer.

365. Have they not got good shedding arrangements?—The place is now a foreign animals' wharf where everything is provided in the most proper manner—water and food and everything else.

366. The Canadian beasts which land there and then walk to Duke-street, have a good time of it?—They are detained first of all—they are not walked straight away.

367. I gather you would not be in favour of landing the Irish beasts at Shieldhall?—No; I should be altogether opposed to it. I do not think it would be in the interests of either the animals or of the trade. It would increase the expense very much, and I do not think it would diminish the sufferings of the animals.

368. (*Mr. Field.*) Did I understand you to say that five animals only were in one pen tied by the head, in the oceanic transit?—That is so.

369. And they were tied in such a manner that they could either stand or lie down at their own pleasure?—That would depend, of course. No doubt you could tie five large animals up in a small pen in which none of them, I think, would be able to lie down; but I have seen a great deal of the Atlantic cattle trade, and in any ship that I have ever been on board all the animals have been able to stand or lie at pleasure. The regulations provide that not more than five shall be carried in one pen.

370. Your experience, I take it, then is that such a regulation is not in force on the cross-channel transit at all in any of the vessels?—Clearly it is not.

371. Those American cattle are slaughtered, of course, immediately they come in?—Certainly.

372. On the cross-channel system of transit, have you found any provision made in any vessel that you have ever happened to be on, for the drawing of beasts or sheep, that may, what we may call technically, have got down?—No.

373. What becomes, in your experience, of any beast or sheep that gets down—what the drovers call down—that is, unable to stand? Is it trampled to death, or is it destroyed?—There, unfortunately, my limited experience comes in. I have never made a passage on one of those ships.

374. And you do not know?—I cannot speak of my own knowledge.

375. Would you be inclined, from what knowledge has come to you, to reduce the size of these pens in these cross-channel ships?—Not necessarily; I would not touch the size of the pen at all.

376. What would you do then?—I would say, that not more than five animals should be carried in a pen.

377. With a substantial division?—A pen of such substantiality that if the cattle fell against it it would not give way.

378. Do you think it would be practicable to have these cattle tied?—Certainly.

379. You do?—Certainly.

380. You give us that evidence now as a sailor?—Certainly.

381. And as a man having experience of the transit of cattle?—Certainly.

382. You think that cattle could be tied in their transit from Ireland to England or Scotland?—In the transit?

383. Yes?—Possibly that would be more difficult, but when I speak of their being tied, I would presume their being tied immediately when they get on board.

384. That is what I mean?—Then I say certainly.

385. That system is found to be satisfactory in the oceanic transit?—It is compulsory.

386. And it is not compulsory, of course, in ours?—No.

387. Is it your experience, or have you any definite knowledge that would lead you to give a definite opinion, that the Irish animals do not command the same price, taking everything into consideration, as either Scotch or foreign animals?—Certainly; that is what

has been told me by men in Glasgow who are in the trade, and whose opinions I have no hesitation in accepting.

388. You are perfectly satisfied about that fact?—Quite.

389. Do you think that loss could be obviated by more careful transit?—Certainly.

390. Then I am to take it as your opinion, and the Committee, I presume, if your answer is in accordance with what I expect it to be, may take it that it is your opinion, as a travelling inspector and as a sailor, that the amount of money which is lost by Irish cattle being reduced in value could be obviated by a better system of transit?—The amount of loss could be reduced.

391. It could be reduced?—Most distinctly.

392. Largely reduced?—I should say so.

393. Now I will not detain you very long about the question of ventilation. You appear to be entirely in favour of a mechanical system of ventilation?—For all compartments of a ship which are what I call under hatches.

394. Have you visited any of the cross-channel ships where the ventilation was not carried out in the way that you would like, was not perfect, or anything like it?—That is a relative question again. Never having made the passage, I am not in a position to say.

395. Then I will not ask you: Your recommendation to this Committee would be to license ships?—Yes.

396. When a proper system of ventilation would be supplied?—I would license a ship, and I would leave it to them to supply their ventilation. If I could prove against them any losses attributable to insufficient ventilation, I would suspend their licence.

397. You are of opinion that this mechanical ventilation is not very easily broken, that is, the machinery?—Certainly.

398. It is not very easily broken?—Certainly.

399. One of the members of the Committee who cross-examined you, I think, managed to lead the Committee to suppose that it was rather a complicated affair, and that it was very easy to get out of order?—I do not think that was the object of the question.

400. Supposing it was broken, it would not stop would it, or prevent the natural supply of air?—Certainly not.

401. That is to say, it would be an additional supply of safety with regard to the ventilation of the ship without interfering with the ordinary supply of ventilation which at present exists?—Yes. If my plan were adopted, it merely means that you quicken the supply by exhausting the foul air.

402. I understand. You would recommend this Committee to recommend a detention of six hours at the port previous to the live stock being embarked?—I am inclined to be of that opinion.

403. Then you think they could be fed and watered so as to bear the voyage?—I think so.

404. A very difficult thing that will be to do, I am afraid. With regard to the proper supervision of the live stock, or what may be distinctly called the Channel transit, that is to say, between England and Ireland, or between Scotland and Ireland, am I to understand that you convey to us that there is a sort of legislative vacuum there, because the Irish Privy Council have charge of Ireland and the Board of Agriculture are charged with the authority in England or Scotland; is the Channel transit then left to a certain extent without anybody to take care of it?—What the Irish regulations are I do not know; where the English regulations fail I have endeavoured to point out.

405. Is that your experience, though, as far as you have had any experience of that particular matter?—I have tried to show that I do not think the regulations go far enough.

406. (*Mr. Cullen.*) Have you ever seen any automatic ventilation in any of those ships that you could have approved of?—By automatic do you mean natural?

407. Yes. For instance, if instead of those cowls which depend entirely for their efficiency upon being turned by hand power, there would be a certain formation at the top which would always be turned to the wind?—That is impossible.

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408. For instance in a breeze?—That is quite impossible.

409. Would you consider this impossible? There are certain vessels fitted up in that way at the present time where the cold air goes in through the main hatchway and is exhausted at the extreme end of the vessel, consequently when the vessel is going on there is always a cold air going in the main hatchway, which is low, and there is a mechanical exhaust near the stern post, thereby bringing a current of air right over the animals. Would you approve of a thing like that?—Certainly.

410. There are those in actual force, as I know?—Yes, but they are not automatic; they are mechanical.

411. What I mean by automatic is, when you have a cowl up you depend entirely upon a man to turn round the cowl, is that not so?—Certainly it is.

412. And often that is neglected?—Yes.

413. Consequently the ventilation fails?—Certainly.

414. That is one of the causes of the deficiency of the ventilation; but if there was a system of that kind in existence, would you be disposed to think well of it; because I believe there is evidence that that acts well?—There is no such thing as an automatic cowl; a cowl which will trim itself is an impossibility.

415. There is this one which has four openings at the top; it is in use in the Mersey?—Yes, I have seen it.

416. But if there was such a one; and if it had acted on the steamers, I suppose you would like to have it?—No. These cowls which are divided into four compartments are a mistake. The capacity of the cowl is reduced to such an extent and the friction of the air in the narrowed passages is so increased that I would rather trust to a large cowl and trust to a man trimming it by hand than I would to one of those four square things which is supposed to be always trimmed by itself. I do not believe in them.

417. I understood that they acted very well?—No doubt their inventor or somebody interested in them would tell you a very good story of that sort.

418. I refer to a steamboat company that have carried thousands of cattle across the Atlantic in that way?—There is only one, that is Thompson's of Dundee who have anything on those lines now as far as I know.

419. The mechanical ventilation seems to me to be a great expense, but no doubt it is efficient?—As I understand the matter, once a mechanical arrangement of a certain sort—a fan of any sort—is put in, there is no additional expense.

420. (Mr. Booth.) You said you did not think that, comparing the Atlantic and the Irish cattle transits together, they touch upon any point. Does that not rather go further than the facts? Surely the carriage of cattle must be similar in many respects, although on a long voyage the conditions are different in the way of requiring more food, and more space for lying down?—I am afraid, in general terms, I would be inclined to adhere to what I said originally.

421. You said the Foreign Animals Order limited the number of cattle in a pen to five?—Yes.

422. Is it not four?—No, I think not.

423. The Order says, "Not more than four cattle" can be carried in one pen, except where small store "cattle shall be carried, and then there may be five"?—Yes, that limits the number to five.

424. For ordinary beasts it is certainly four?—Yes, but five is the extreme limit.

425. That is only the case where the animals are small?—Certainly; not more than five, as I originally stated, is what can be carried.

426. You were speaking about meeting the cattle boats; Glasgow has been your chief experience, has it not?—It has.

427. Practically, do the inspectors of the Board of Agriculture always meet the cattle boats?—No.

428. On what occasions do they meet them?—They are so very busy as a rule that, unless they have a particular job of that kind, they have not time to attend to it.

429. So I suppose; but in what way do you get your request to go down to meet a ship on any special occasion?—I was given orders that any spare time I had was to be devoted to the investigation of that particular point.

430. Supposing in a time of storm there came in boats with some animals damaged, would you necessarily hear of it, and go down to meet them?—Not necessarily. The information is sent to the office, in town here, and Major Tennant, who is the chief travelling inspector, or has been, would give the instructions.

431. Then there might not be a travelling inspector of the Board of Agriculture at any one spot, say Glasgow, at any one time?—Certainly so.

432. He may be there or he may not?—Certainly.

433. Probably not?—Probably not, certainly.

434. Then you say you have never crossed on the Irish route?—Never.

435. But you also said that, on the Irish route, the boats being smaller, it was not the same as on the Atlantic—there might be pitching and rolling?—Certainly.

436. More pitching, to a great extent, than there would be on the Atlantic?—Certainly.

437. You have a general experience of the sea that makes you make that statement?—I am an Irishman, and I have been across to Ireland a great many times. When I say I have never crossed, I mean with cattle to watch them.

438. But surely you would not say that in rough weather in the Channel, a Channel boat being smaller, would not roll as much in proportion to the sea as an Atlantic ship would roll on the Atlantic?—She would roll more.

439. I thought I understood you to say that there would be very much less rolling in the Channel, therefore it was not so important that the beasts should be tied by the head?—No, it is a combined motion. A ship may pitch the whole way, and may never roll at all; consequently if you tie, under those circumstances, to provide for the rolling motion, your animals would be standing the wrong way, and they would suffer more than if they were not tied at all. The Atlantic vessels are all long, and they do nothing but roll; they cannot pitch, consequently the animals are tied in one way, and always with their head to the motion.

440. You say "always"; but I have had some experience on the Atlantic, as well as in the Channel; surely you cannot say that a ship on the Atlantic never pitches?—Relatively.

441. Of course there is some proportion between the size of the ship and the size of the sea in both cases?—There is distinctly.

442. In any case the angle of the pitching is a very small thing compared with the angle of the rolling?—Not in any case; I do not think I should admit that.

443. Unless it was a small ship—a smaller ship than we should have any connexion with in this Irish cross-channel trade?—What I meant was merely a comparison; I do not mean to say that no Atlantic ship pitches, and I do not mean to say that the Irish ship only rolls. I say they both roll and pitch.

444. These questions really relate to the question of head roping?—Certainly, that is the view I have.

445. As I understand, your experience of Glasgow shows you that the head roping is rather the exception than the rule, so far as you see the cattle on arrival?—No, where they are not carried below I think the rule is to tie.

446. Yes, in the hold below?—Of late months there have been none carried below because of the slack season.

447. How long is your experience in this business?—About three or four months I have been going over the cattle boats in Glasgow.

448. Then it is quite recent?—Yes, in Glasgow. I had been on board cattle boats before, but never made it a systematic inquiry.

449. Now you remarked in answer to a question that you had not heard of any damage to cattle from shifting boards and so on giving way?—No.

450. But I did not understand that your experience had been so short?—My experience really extends over four years, off and on.

451. Then with regard to the certifying of the boats for carrying cattle, do I understand that the certificate

is granted by the Board of Agriculture?—There is no certificate at present.

452. There is no certificate at all?—No.

453. But the boats are passed for the conveyance of cattle, surely, by the Irish authority?—Whether by the Irish authority I do not know—not by our Board.

454. Supposing the boats are owned on the English side, do not they have to get a certificate for the carriage of cattle?—No.

455. Then you spoke of food and water previous to shipment, and said that if the owners of cattle would avail themselves of that permission it would be a good thing?—Yes.

456. Is it not the case that the owner is generally not on hand at all, and that his cattle are sent down to the port for shipment?—Certainly.

457. And are in the hands really of the steamboat company; in which case how can the owner have any chance of feeding his cattle?—I say the owner or his agent; I merely mean that the cattle should be given an opportunity of feeding after a long railway journey on the other side before embarking on board the ship.

458. Having never been over to see the cattle shipped you have no particular knowledge on that point?—No, not of my own knowledge.

459. Then on the question of the drovers, you said if more quiet means were used in the coercing of the cattle the result would probably be a great deal better. Would it not be an advantage, therefore, in your opinion, that the drovers should be licensed?—Yes, I think it would.

460. Both on driving down to the pier, and on to the boat, and on receiving them on landing?—I would think so, but I think there are very great difficulties connected with the licensing of drovers.

461. Where does the difficulty chiefly arise, the object, of course, would be to get some control over the drovers?—The object being to get control. No doubt it would be a very good thing, and it might be that when it came to be practically put into operation the difficulties would disappear, but I cannot but think that it would be a difficult matter now, as the matter stands.

462. Have you any difficulty to give as an example in the matter?—Who is going to be responsible? We will suppose Irish cattle coming from a railway journey into Belfast, say; are you going to license all drovers—the men who would come with them, all the railway servants who would have their debarkation from the railway trucks, all the men who drove them through the streets, and then others who would put them on board?

463. Then you see a difficulty in selecting the men to whom the licence should be given?—I see a difficulty more than that, I am afraid. If it was understood that nobody but the licensed drover was to touch the cattle, who are going, as they say, to lift them from the farm, and to put them into their original trucks? I think the idea is a good one. I think probably if it was taken resolutely in hand these difficulties might disappear; but are farm servants necessarily to be licensed drovers?

464. I was rather speaking of the driving at the port of embarkation, and not speaking of the port of disembarkation?—Distinctly so. Then suppose a man accompanies his own cattle over, is he to be at liberty to handle them, to touch them, to hit them, to goad them, or what not, not being a licensed drover? I think there would be difficulties of that sort, although perhaps they are more easily expressed than would be found practically.

465. You spoke of supervising them; surely supervision can only be done by the persons in whose employment they are?—Take Liverpool, there are inspectors appointed by the local authority of Liverpool for the supervision of such matters.

466. Supposing the men who are employed to put the cattle on board, and to take them out of the ship, are in the employ of the steamboat company, would you expect that it would be the steamboat company that would have the power of supervising and controlling the drovers?—Certainly, they would have to, I think,

467. Then speaking about the gradients, you referred to Glasgow. You have not, as I understood, seen the Dublin gradients?—No, never.

468. (Mr. Watson.) I would like to ask you a question with reference to your proposed method of penning the cattle on board; you speak of the cross-channel steamers, of course, being shorter, as they are, than the Atlantic steamers, but still in proportion to their length they are necessarily a great deal longer than they are wide, and as you very properly say, the rolling motion is very much more severe than the pitching motion, they roll to a much higher angle than they pitch?—Clearly, certainly.

469. Then in a case of having to select which way the cattle could be put, which way do you consider they should be tied in the ship?—It would depend on a great many things. A knowing captain before he went to sea would probably be able to tell you whether his ship would roll more than she would pitch or *vice versa* during a certain passage.

470. You mean that you would vary it according to circumstances?—That is the difficulty I would have in laying down any general rule as to whether cattle are to be tied or not. That is the point I meant to emphasise, that if you insist upon their being tied then they may be tied in a wrong direction, and while your object would be to alleviate the sufferings of the animals, you really would add to them instead of alleviating them.

471. Am I to understand that you think tying as a rule is good or not?—My view is this, that I would first of all legislate for the numbers in each pen, I would reduce the numbers down to five. At present it is nothing; the pen is to be 15 feet by 9 feet, and it may hold 20 cattle or it may hold six. I would ensure such a regulation as would necessitate only five cattle in any kind of pen. Let them go in head and tail not tied. Then if that was found to succeed, and if it was proved after a certain time that beef landed better in this country, animals suffered less, and so on, then I think the further question of tying might be considered. I would not consider it at all until I had tried the experiment of the reduced number in each pen.

472. You are aware no doubt that the pens are all constructed, I presume, to carry the cattle in one particular way; according to your view, they would have to be constructed so as to be used either way?—They are 15 feet by 9 feet, and the cattle have to find their own way about.

473. Then you do not give any definite opinion about tying?—No, certainly not.

473a. As regards the second point, do you consider that in cross-channel steamers they should have room to lie down?—I do not think it ought to be necessary.

474. Would it be an improvement or would it not; as I understand the view expressed in the evidence we have already had is that the cattle will rather suffer if they are brought too close together so as not to get down easily?—That would be my idea.

475. That would be your idea?—Yes.

476. You do not think it would be wise to have room for them to lie down, as in the Atlantic trade?—Again, I do not think the comparison good; they are not parallel lines at all.

477. You look at the smaller number from a different point of view altogether?—Yes.

478. A smaller number would be safer than a larger number?—That would be my idea without anything at present to go upon, because there is no experience to show one way or the other.

479. And you do not think they should have room to lie down, you think they are safer standing close together?—I would think so. I do not think it ought to be necessary to allow them room to lie down.

480. As regards ventilation, did I take it correctly from you or understand you to say that 26,000 cubic feet per hour per head was the quantity you would require?—Those are my figures.

481. It seems a very large figure; that is why I wanted to be quite sure of it?—It does. The way I got at it is this, that it is agreed by all physiologists that every human being required about 3,000 cubic feet per head per hour.

482. As regards your experience of the present ventilation, do you consider it sufficient now or not, or

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have you any experience of cattle landing showing the effects of deficient ventilation?—No, as the matter stands I have not. At the same time I do not think that the ventilation is sufficient.

483. But that is more from theoretical considerations than from practical observations?—Clearly.

484. I presume the hatchways of most cattle steamers are kept open; have you any knowledge of that?—Nothing but what I am told by the officers of the ship.

485. What is that?—Of all the Glasgow steamers that I have made investigations on of late I have been assured that at all times all their hatches remain open.

486. Do you know if the Dublin steamers or the Belfast steamers are?—When I said Glasgow steamers—

487. You mean Glasgow and Belfast or other steamers between other ports, or are you speaking principally of Glasgow and Belfast?—I am speaking practically and exclusively of Glasgow and Ireland.

488. Is that Glasgow and Dublin or Glasgow and Belfast only?—Both.

489. You say of both cases that the hatches, you understand, are kept open?—Yes; there are three companies that I have had to do with, Laird and Company, G. and J. Burns, and the Dublin Steam Packet Company.

490. You are speaking of those three?—Particularly of those three companies.

491. (*Mr. P. Smith.*) Is the Dublin and Glasgow line Lamont's?—Yes, that is Lamont's.

492. (*Mr. Watson.*) As regards strength of fittings, I understand, your observation is, that you think they should be legislated for to ensure their being strong enough?—Yes.

493. But you have no information of their being insufficient at present?—That is so.

494. You may remember that there was a case happened of the ship that lost many cattle in coming to Liverpool?—Yes.

495. (*Major Tennant.*) The "Blackrock"?—Yes, the "Blackrock."

496. (*Mr. Watson.*) Did the fittings give way?—I do not know that of my own knowledge.

497. You also, I think, in reply to Mr. Field, said that Scotch cattle arrived rather better in condition than Irish cattle. Did I understand that correctly—did you mean to say that American and Scotch cattle fetch a higher price than Irish cattle in consequence of arriving in a better condition?—Yes.

498. I do not quite understand what Scotch cattle?—The cattle were killed.

499. Was it railway-borne Scotch cattle?—I was speaking merely of the Glasgow market in that connexion. If you go into the dead meat market and you see an injured animal and say, What is that? you are told that it is Irish.

500. You mean in the Glasgow market?—Yes, that is, the dead meat market only.

501. The Scotch cattle must have arrived from the interior?—Perhaps killed in the place and never left it.

502. (*Mr. Booth.*) In regard to the fittings, would not the fact that the reducing of the size of the pen so that it would be suitable for five cattle instead of what it is now thereby necessarily increase the strength of the boards and fittings throughout?—If they remain as at present, certainly. It is merely because it is in one case legislated for, and in the other that it is not legislated for, that I think the two ought to be put on the same footing. In the American trade it is laid down that the fittings must be of such a nature as to stand the weight of the cattle.

503. The fact of there being a larger number of cattle in the pen necessarily means that there are long spaces between the boards, and therefore when any of the cattle come against them they must be liable to give way?—Certainly.

504. (*Sir W. Kaye.*) Your evidence appears to apply altogether to the carriage of cattle?—Yes.

505. Have you anything to say to the carriage of sheep or swine?—Sheep I have seen very little of. The only remark I would make with regard to pigs is that I have seen them in the slaughterhouse and a great many of them in the last few days very badly marked with the stick. I have been told by the butchers who dressed them in the Glasgow slaughterhouse that it is common to get the mark of a rope.

506. You must not give us what a butcher told you?—No, I am quite with you there. I know the Glasgow butchers very well. But when a man tells me that is the mark of a stick, and that he frequently has an animal marked with a rope, and that he sees the line of the rope on the side of the animal that he has dressed, I am prepared to believe him.

507. That, I suppose, was one of the reasons why you went for the goad?—Certainly, that is one of the reasons—to obviate these marks of a stick.

508. Besides, you are not giving evidence as a cattle expert?—No, certainly not.

509. It is entirely as a seaman expert?—Certainly.

510. You are acquainted with the regulations at present in force for the transit of animals by water, are you not?—The Irish regulations?

511. They are the same exactly as the English?—Then I know them.

512. I do not think there is very much to say about them. The first is, "Every place used for animals on board a vessel shall be divided into pens by substantial divisions"?—Exactly.

513. You agree with that?—Certainly.

514. The only question is as to the size of those pens?—Certainly.

515. Then the next point is this, "Every such place, if enclosed, shall be ventilated by means of separate inlet and outlet openings, of such size and position as will secure a proper supply of air to the place in all states of weather"?—Yes.

516. That also would satisfy you?—Certainly.

517. It is only a question as to the means?—Certainly.

518. Then your remedy would be this. You would have these vessels licensed, and if there was any loss arising from any defect of ventilation you would withdraw the licence?—Certainly.

519. I do not know whether you are aware at all or not that the cattle-carrying ships from Ireland are all certified by the Board of Trade as fit for the purpose. If you do not know we can get evidence of it?—I do not know of any regulations by the Board of Trade on the matter. They do not touch the question of ventilation.

520. They touch the question of these regulations, and they certify that these regulations are complied with?—Then that is just my point, that these regulations are complied with according to the will of every individual.

521. But if there is a proper supply of air afforded to every part in which the cattle are, that is sufficient?—Certainly. The question arises at once what is a proper supply of air. You may think one thing, and I may have a totally different opinion.

522. But all that is proved, according to your own evidence, better by experience than in any other way?—Certainly.

The witness withdrew.

Mr. MATTHEW HEDLEY called and examined.

523. *Chairman.*) You are a Fellow of the Royal College of Veterinary Surgeons, are you not?—I am.

524. And Chief Inspector of the Veterinary Department at Dublin Castle?—Yes.

525. And you are prepared to give us evidence as to the working of the Irish Department?—Yes.

526. In what do the Irish regulations differ from those of the Board of Agriculture, do you know?—In the majority of cases, as near as we possibly can, we follow the regulations which are issued by the Board of Agriculture, adapting them as fully as circumstances will admit of.

527. We have had them explained to us. May I ask you to specify, if you can, any of the points in which they differ, with respect to the fittings, for instance?—The fittings are the same.

528. The size of the pens?—The same, and we have exactly the same arrangement for battening and ventilation; also for overcrowding, so as not to cause unnecessary suffering to animals; also for the protection of shorn sheep during the winter months against exposure on decks. Then there is power for detention by an inspector of the Privy Council of animals landed from a vessel if any of those provisions are not complied with. Then there is compulsory provision of water for animals at both shipping and unshipping places, and the provision at places where animals are landed from vessels for their speedy unshipment, and for a supply of food to them.

529. In fact, the regulations on these points with your Irish Privy Council are the same, apparently, as with the English Department?—Almost word for word.

530. As to cleansing and disinfection, I suppose that it is very much the same?—Very much the same. Provision is made for the cleansing and disinfection of vessels, gangways, &c., and for the cleansing and disinfection of lairs used for animals. I do not know that the Board of Agriculture make any special provision for the cleansing of lairs where animals are unshipped. We have special lair arrangements in Ireland, and we see to it. We have regulations made for the proper cleansing of these lairs in Dublin, from which the largest shipments of animals are made; there are special regulations regarding these places, which must all be licensed; these premises are licensed specially.

531. The lairs?—Yes, as a lair or lairs for animals. Animals in that case does not include horses; I use the word "animals" as it is defined in the Contagious Diseases (Animals) Act.

532. And that includes?—That does not include horses except when specially arranged.

533. What does it include?—Cattle, sheep, and swine.

534. I suppose, generally speaking, all the powers possessed by the Board of Agriculture in Great Britain are possessed by the Veterinary Department of the Privy Council in Ireland?—With reference to cleansing and disinfection?

535. And supervision of transport, and all that sort of thing?—Yes, pretty much the same.

536. And the Lord Lieutenant stands in the position of the Minister of Agriculture?—Exactly so. Of course, there are times when, owing to the fact that we are an exporting country, we have some additional powers.

537. Just let us know what they are?—So far as portal inspection is concerned, I am not aware that the Board of Agriculture makes any special arrangement for portal inspection. We have an Order in force, the Animals (Ireland) Amendment Order of 1886, which requires that no animal can be exported until it has been inspected, and certified as free from disease, and licensed by an inspector of the Veterinary Department. The inspection must take place at such times and places, and under such regulations, as shall from time to time be made by the Lord Lieutenant. As regards time, the general regulation is that the inspection must take place between sunrise and sunset. However, at the ports of Dublin and Cork, inspections with the aid of the electric light are sanctioned, but no other artificial light is authorised. If any animal is con-

sidered by the inspector to be unfit for inspection by being heated, dirty, or from any other cause, the owner or other person in charge is required to, as far as possible, render it fit for inspection by rest or cleansing, &c., as the case may require.

538. Have you prints of the various provisions that you have referred to?—Yes, I have, and could hand them in if desired.

539. Have you anything to say about the means adopted for the carrying out these regulations?—We have special arrangements made with the Board of Trade, so that the Board's surveyors in Ireland are appointed by the Lord Lieutenant as inspectors under the Contagious Diseases (Animals) Act. They theoretically inspect all the cattle-carrying ships, and report whether the requirements of Article 77 of the Animals Order, that is equivalent to Article 116 of the Animals Order of Great Britain, relating to fittings and ventilation of vessels, are duly complied with.

540. Do you often receive reports from them?—Frequently; and they take an opportunity of inspecting a vessel when she is at an Irish port; and always when a vessel is going to be overhauled before she is put to sea again for her ordinary service, we receive a report from the Board of Trade stating whether she has been equipped according to the regulations, and fitted up with the usual pens, ventilators, and so on.

541. Do the Board of Trade officers receive pay for this?—I do not know how they are paid.

542. (*Sir W. Kaye.*) They get no extra pay?—No, I think it is only an honorary office.

543. (*Mr. Smith.*) Does this refer to the Scotch vessels, or only to the Irish vessels?—It refers to vessels which ply between Great Britain and Ireland; Irish, Scotch, or English. In addition to the Board of Trade Surveyor's Reports, we have employed 41 ship inspectors at the 18 cattle-exporting ports. They furnish a report to the department on a special form, a copy of which I propose to hand in. It is their duty to see, first, that the ship is thoroughly cleansed and disinfected before animals are put on board, and that the transit regulations are carried out. They issue exportation licence forms, they supervise the shipment of animals, and they are instructed to prevent overcrowding and cruelty.

544. Supposing overcrowding is reported, what are your instructions as regards overcrowding?—The instructions which they have is that they are to use every means to have that remedied before the vessel leaves, and if it is not remedied to their satisfaction to report the matter, so that the Government may take steps.

545. Then if it is reported, what steps are taken; have you ever had any prosecutions?—Yes, and we have had heavy fines inflicted, too.

546. Have you frequently had prosecutions?—No.

547. What do you call heavy fines?—I really cannot say exactly now what the amount was.

548. Do you speak of more than one prosecution?—Yes, we have had more than one prosecution.

549. Within what time?—I think it would be within the last five years.

550. Of your inspectors some of them, I believe, are members of the Dublin Metropolitan Police, or of the Royal Irish Constabulary?—Yes, and there are also some pensioners.

551. How many members of each?—We have 41 ship inspectors; 17 are members of either the Royal Irish Constabulary or the Metropolitan Police; 19 are police pensioners, and five are civilians.

552. Then you have a number of portal veterinary inspectors?—Yes, we have a number of portal veterinary inspectors.

553. Twenty-seven I understand?—Yes. They are employed by the department directly, and it is their duty to inspect and certify all cattle, sheep, and swine exported and imported. They are also required to furnish weekly reports as to the sanitary condition of the various stock yards and lairs at the port.

554. Then you have two travelling inspectors?—We have two travelling inspectors as well, and they exercise general supervision over the ports, and the various

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members of the staff at each port. They constantly visit those places, and report upon any matter that in their opinion they consider should receive attention.

555. They report to whom?—To the head of the department, Sir William Kaye.

556. You give a long list in your *précis* of the points on which the existing state of things is alleged to require amendment; does that list embrace all the suggestions that have been made to you, or does it embrace only your own suggestions?—The list which is given there is chiefly drawn from the correspondence of people outside the department.

557. Then are we to understand you as endorsing the recommendations, or simply enumerating them?—As enumerating them.

558. Would you please just read out the points for the information of the Committee?—The points on which the existing state of things is alleged to require amendment are: The system of embarkation, and the method of stowing cattle, the insufficient rest of cattle before shipment, the unnecessary beating of cattle, the fittings of vessels, the ventilation, the attendance on animals during their voyage, the insufficient light in the lower decks, the sailing of ships in stormy weather, the provision of food, the unloading of animals, and the insurance rates.

559. I would like you to explain what you mean by insurance rates; I do not exactly understand you?—Some of the companies insure animals to walk ashore, but others do not. There are insurance companies who will insure animals to be delivered ashore, as well as the companies themselves.

560. I do not think you have exhausted your list, have you?—We have had correspondence with reference to amendments which people suggest. When I mention people, I speak of corporate bodies as well; such as, I think, the branch of the Society for the Prevention of Cruelty to Animals in Liverpool, they made some representation; and the Cattle Trades Association; and certain individuals. The following seem to include all that has been brought under notice, that covered lairs for cattle should be compulsory at all ports; that cattle should not be driven at more than a walking pace to the place of shipment, that the gradients of gangways and ladders should be reduced; that they should have improved ventilation; and the general adoption of the fan system is advised; that each vessel should be licensed to carry not more than a certain number of cattle, to be specified in such licence; that the transatlantic regulations as to the fittings of cattleships, space, passage ways, ventilation, light, food, and water on board, mode of securing cattle, attendance, &c., should be applied to vessels engaged in coastwise traffic; that the provision of special pens fore and aft on deck, and between decks, should be insisted upon for the purpose of receiving animals that are thrown down and injured on the voyage; the removal of iron and other projections in the pens, &c., and of sharp edges against which cattle may be bruised; that the height of the hatch combings should be increased; that attendants should be provided in a specified proportion to the number of cattle shipped; that all cattle, except calves or yearlings, should be tied with head ropes; that vessels should be prohibited from leaving the ports under certain conditions of weather; that animals should not be allowed to go without food or water for longer than a specified period, not to exceed 24 hours; that all drovers should be licensed; that the use of the goad should be specifically sanctioned; that dishorning should be compulsory; that a uniform system of insurance should be established; and that the captain of the vessel should be made distinctly responsible for the due care of his cargo.

561. About this dishorning, has not that been held to be illegal; has not it been held to amount to cruelty?—Not in Ireland.

562. (Mr. Watson.) It has been decided both ways?—Yes, both ways.

563. (Chairman.) I see you have some statistics in your *précis*?—Yes, there is a return of the number of animals exported from Ireland to Great Britain and the Isle of Man during the year ending 31st December 1893, showing the ports of embarkation in Ireland.

564. Will you please give us the totals in the first place?—Shall I only refer to animals, or to cattle, sheep, swine, goats, horses, mules, or jennets and asses specially.

565. We do not care about horses and mules, give the cattle, sheep, and swine?—From Ballina the total cattle was 186; sheep, 103; swine, 22. From Belfast the total cattle were 73,437, sheep, 31,916; swine, 37,270.

566. Just give us the final total?—The total number of cattle which were exported from Ireland in 1893 was 689,387; of sheep, 1,110,187; and of swine, 456,573. I suppose there about 38,000 other animals, which includes goats, horses, &c. These totals are an increase on the totals of 1892, which were also an increase on the totals of 1891, that is to say, there has been a steady increase during 1891, 1892, and 1893.

567. (Mr. Booth.) An increase of each kind or only of the sheep?—There has been a decrease in swine each year.

568. Is there an increase in the cattle in the last two years?—No, 1892 was not over 1891. In 1892 there were 624,503, but there were 631,412 in 1891. In 1893, as I say, there were 689,387, which was a large increase on either of the two previous years.

569. (Chairman.) You may perhaps be able to give us some information as to the state in which cattle from the country arrive in Dublin for embarkation to British ports, that is to say, whether they have suffered much in the transit from the country to Dublin, or whether you have any reason to believe that they go on board in a damaged condition?—I have no doubt at all that the animals do go on board in a damaged condition. I have observed that the animals often do go on board in a damaged condition.

570. I suppose in inspecting the lairs and so on you see the animals as they have arrived from the country?—Yes, I have frequently.

571. Do you think that there is much damage sustained by them before they are handed over to the shipping company?—I think that it generally depends upon the length of the journey or the number of fairs or places that they have previously attended.

572. What we are anxious to get is some general idea of the amount of damage, whether the damage is not more sustained among the cattle coming up to Dublin for shipment previous to their being shipped?—If the animals have come from a fair, and have been rapidly driven to the train, rapidly brought by rail to the pier and rapidly put through the inspection before they are put on board, they sustain considerable damage. Where it is not necessary to have any rapid process about it they do not sustain anything like the amount of damage they would otherwise, and that is chiefly stick beating.

573. Then about the feeding and watering before they are put on board?—If there is much time before a vessel must go or before she must either catch her tide, or have inspection and be loaded, then they do not get such an opportunity of getting food; but if they have come up, say, for Thursday's market, then they come up on the Wednesday, they stand Thursday's market, they are sold and rest in the lairs sometimes two or three days before they are exported. Then there is ample opportunity.

574. Have you any suggestion to make as to the insufficiency or otherwise of the means provided at Dublin for feeding and watering the cattle; do you think it is sufficient or not?—In my opinion there is ample lairage accommodation.

575. Then the feeding of the cattle is entirely at the option of the owner?—Of the owner or his agent.

576. Do the owners or agents pay proper attention to the feeding of the animals?—No, I do not think they do, because very often when animals are sent through, the agent may probably be a man who receives a small sum of money, and he has to get these animals on board, and that is all he has to do—he is not requested by the owner to do anything more.

577. Then, as a veterinary surgeon, do you think that the animals suffer much or sustain much deterioration through the starvation?—Certainly, I think it makes them more unfit for their sea journey.

578. (Sir W. Kaye.) Would you explain to the Committee the steps that are taken before these lairs are licensed as resting places for the cattle?—Any person wishing to have a lair must send in a written application to the department, stating that he has certain premises which he wishes to have licensed. These premises are inspected, and they are not licensed unless they are provided with a floor (I mean a floor not only to the places where the cattle stand, but to all the yard itself) which will admit of thorough washing, which

does not admit of the excrement of the cattle percolating into the earth, and which has ventilation, light, and proper surface drains. We do not admit of what is commonly known as a kidney stone drain, which does not admit of easy cleaning, and there must be a sufficient water supply.

579. (*Mr. Smith.*) Aye you speaking of Dublin?—I am speaking of Dublin only. Then if we take the lairs belonging to the shipping companies, they must be provided with pretty nearly as good conditions; they are not covered in in all cases, but in the majority of private licensed lairs they are covered in.

580. (*Sir W. Kaye.*) Is there a regular inspection of those lairs by the officers of the department?—The officers of the department inspect all the lairs which are used for the keeping of stock for shipment, and report upon them every week.

581. And in case of default the licences are withdrawn?—The licences are withdrawn in case of default.

582. Then all cattle coming into port are examined by some of your staff before they can possibly be put on board?—Yes, before they are shipped.

583. They are licensed, and there is a duplicate or a block kept showing the particulars of each licence so that they can be traced afterwards?—That is so.

584. The police, both the constabulary and the Metropolitan Police, co-operate in carrying out the provisions of the Act and the Orders, do they not?—They do.

585. And the prosecutions for violation of the Orders are very considerable from time to time?—They have been.

586. (*Mr. Watson.*) Can any cruelty go on without the knowledge of your inspectors?—I think everything is possible but I think it is not very probable.

587. You speak of two travelling inspectors; what does "travelling" mean, do they cross the channel?—No, they go from port to port in Ireland.

588. Do they visit more ports than Dublin?—Yes, certainly, they visit almost every port but Dublin, because we have a special portal supervisor in Dublin.

589. Your evidence is now for all ports in Ireland?—Certainly.

590. You are not speaking of Dublin only?—No, I am speaking of Ireland generally.

591. Do you think that it would be possible in the case of cattle coming in by train to Dublin for shipment that evening to delay them long enough for feeding?—Sometimes it would, but not very often. For instance, we will say a vessel loads up at 6 o'clock at night; the cattle get in by 3 o'clock, there is no reason why they could not feed them during the time they are being inspected, because really in the pens I have seen the cattle resting when they could get food and water, and I have seen food and water given to them while they were so resting.

592. There is every opportunity for their getting food under those circumstances?—There is.

593. If the owner is desirous of it?—Certainly.

594. That is what you mean?—Yes. The only time when probably there would be any great difficulty is when they are hurried from a slow fair—that is a fair which has not sold quickly in the morning because the owners have been lying back for higher prices, and the trains have not got off, and then the cattle have not reached their several ports early enough to admit of their being fed if they are to catch that tide.

595. The owners insist upon their going over then?—Certainly.

596. But they could keep them till the next day if they thought fit?—They probably have been bought to meet a market on the following day.

597. In England?—Yes.

598. As regards lairage accommodation, what you call a lair I presume is not a shipping place, but a place for keeping cattle in?—That is a lair.

599. Are the lairs covered?—I believe, so in every case.

600. The shipping companies' places are open, you say?—Not always.

601. But mostly?—Mostly.

602. Are cattle kept in them at night?—I do not remember their being kept in them at night.

603. They are merely used for passing through?—Only during the time they are inspected. If animals are to be kept in Dublin for the night they go to one of the covered lairs; they would not be taken to the shipping yard; they would be taken direct to a lair. They are consigned to some particular agent then, and the agent probably is the keeper of a lair; he would receive an order from so and so, "Meet so many cattle of mine," and then the man knows that individual's particular mark on the cattle, and he recognises them by that particular mark, it may be a cut here or it may be a cut somewhere else, but he recognises them by that particular mark, and he removes his 20 head and takes them to the yard or the lair resting them there until they must go over.

604. Are there many cases of cruelty or ill-treatment reported?—No, I do not think there are; but if they do occur, they are pretty severely dealt with.

605. (*Mr. Booth.*) Do your duties take you personally out into the cattle yard to see how the inspectors act?—Not now.

606. But you have had to do it previously?—For 10 years I did.

607. Yourself?—Yes.

608. Do the inspectors of the department consider that their duty goes beyond the cattle yard; does it extend down on to the quay?—No, not the veterinary inspector's duty; the veterinary inspector has no duty outside.

609. Those are the inspectors we are talking of, are we not. I believe there are not any others?—Yes, there are ship inspectors.

610. Yes, ship inspectors for the fittings of the ship, and so on, such as you spoke of as being done periodically?—No, in addition. You are referring now to the Board of Trade Reports, but in addition to those we have a number of men who are engaged to deal with ships and shipment. The veterinary inspectors only deal with the professional portion of the duty, and they issue a licence as well; that licence is written under one signature. The pith of it is pretty much this: that after a careful examination, he has found that these animals are free from disease, and he sanctions their being shipped; that is the veterinary certificate and licence given in one; then the animals are branded. After they leave the yard they are under a special supervision of the ship inspectors, who see to their loading, who go on board prior to the loading, and see that the vessel is in a proper condition.

611. Is there some such inspector who does actually go on board the ship; it may be that it is theoretically so, but does he actually go on board the ship; is he actually there?—I have seen them there, and we pay 41 of them to do that work.

612. For all the different parts of Ireland?—Yes.

613. Mr. Watson asked you just now whether any cases of cruelty had come to your knowledge, or whether you thought any cases of cruelty had escaped you. Now, unless there are inspectors on board the boat when the cattle are being driven on the boat itself and down below, you naturally would hear nothing of it?—Always, when I have visited any port, I have found a ship inspector either on board or watching the animals going down the gangway. I do not remember, and it does not occur to me now, any occasion when I was at a port that the ship inspector was not at his post.

614. Were your visits accidental?—Always. I never used to report that I was going to any port: I have even arrived at a port at 2 o'clock in the morning, and gone straight to the place of shipment when the shipping was in progress in Cork with the aid of the electric light, and found the officer at his post, just the same as if it had been the middle of summer instead of winter.

615. As to the men who are employed to put the cattle on board from the cattle yard, in whose employ are they?—They generally belong to the shipping company or companies.

616. Generally?—Yes, but I daresay the owner or the owner's man will render assistance.

617. So that they are in the employ of, and paid by the steamboat company?—By the owner or the steamboat company.

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618. By the "owner" do you mean the owner of the cattle?—Yes.

619. Then it is not certain who puts the cattle on board?—No. I had no means ever of knowing whether the man who is acting as drover was the officer of the steamboat company or of the owner.

620. Does the steamboat company allow anybody to drive cattle on board the boat; does it not want to see them put in and to control the stowing of the cattle by its own officer?—The driving on board the boat and the stowing of them are two very different processes.

621. Does the same man not go down?—He will go down; but the stowing of the cattle is in the hands of the company's servants.

622. Then the company have their own men on board the boat for the stowing?—Certainly.

623. Always?—Always. I do not think there is any exception to that.

624. You said that the instructions were to prevent overcrowding and cruelty?—Yes.

625. Does that lie in your department, the veterinary department?—Yes.

626. Yet you say your inspectors do not go beyond the cattle yard. I want quite to understand how you get hold of this overcrowding, supposing it to exist?—I say the veterinary inspectors do not; the ship inspectors do.

627. But they are not under the control of your department?—Certainly they are; the ship inspectors are under the control of the department the same as the veterinary inspectors. A veterinary inspector's duty ceases with the inspection of animals unless the portal supervisor, that is to say, the veterinary surgeon in charge of the port, for he is a member of the College and holds his degree, takes any special action; if there is anything wrong that is reported to him by the ship inspector, who is not a professional man, if the ship inspector comes forward and informs the supervisor that there is overcrowding on such and such a vessel, the supervisor goes at once, because he is responsible, to see what that is, and if there is overcrowding he directs the attention of the captain to the matter and desires him to have it regulated at once. Supposing the captain refused to do it, the matter would be reported, and the captain would be dealt with.

628. But what overcrowding is would depend entirely upon what the inspector considered to be overcrowding?—Certainly.

629. Because the regulations are only to prevent "over-crowding"?—Yes; there is no regulation as to the number in any given space.

630. That seems to me to be a difficulty, because the regulations, you say, are the same in England as in Ireland, and these regulations are very short and general; does it not depend very much upon the opinion of the individual inspector whether the ventilation is adequate, or whether the partitions are sufficiently strong?—Yes, it does.

631. There is no standard upon which any decision can be made?—There is not any standard fixed.

632. Then with regard to the feeding of these animals; you speak about the owner or the agent deciding whether he wants them fed or not. Now, in the case of beasts which come, I suppose, consigned on a through rate from the interior by the railway, are they not delivered direct from the railway to the steamboat company, in which case there is no agent at all who intervenes?—But then the railway company is the agent for the time being, until they are delivered to the steamboat company.

633. Then the animals are really in the control and at the disposal of the steamboat company?—Yes, so far as I am aware. If I, as an owner, were sending a lot of cattle through from, we will say, Westport, and they were going to Norwich, that is taking a pretty long journey, if I give instructions to the company that I require those animals to be fed in Dublin, and they failed to do as I desire in that respect, although I paid them what were the necessary expenses, I should consider that I had cause for action. It is quite within their power to do that.

634. You have spoken of cattle which appeared to be exhausted already, cattle that have come a distance by the railway and were going to be shipped, and you said that you had noticed that those beasts were more or

less exhausted and unfit to be shipped; does the department ever interfere in such cases? Supposing the boat is going out, we will say, this afternoon, and the beasts have just come in and have been branded, is there any interference to prevent those animals being shipped if you, as an inspector, observe that they are practically unfit for shipment?—The interference would take place before branding, not after branding.

635. Well, at either time?—The interference is only in connexion with the inspection; the clause says: "The owner or person in charge of each animal intended for inspection and shipment shall have the same presented for inspection with an application for such inspection at such place and in such manner as may be set forth in regulations to be made as aforesaid, or as the inspector, subject to such regulations may require, and should any such animal from being heated, dirty, over-driven, or from any other cause be considered by the inspector to be in an unfit state for inspection or examination, its owner, or the person in charge of such animal shall, as far as possible, render it fit for inspection by rest or cleansing, or other means as the case may require."

636. In such a case as you have been speaking of, it would be the steamboat company which would have to order the beast to be detained?—If an animal came beaten about the head with sticks, or beaten about the back or across the loins, or if it had been prodded, we will presume with a goad, it is very probable that such would not render that animal unfit for inspection. It would be quite possible for the veterinary surgeon to state whether in his opinion that animal suffered from any of the diseases which are mentioned in the Contagious Diseases (Animals) Act.

637. I am not supposing anything of that kind. I am supposing that the beast has come a railway journey and has not been fed, as he clearly cannot have been, and is in an exhausted condition according to your opinion when you see him, and unfit to be shipped, I ask whether, then, there is any interference, because you simply speak of interference in the case where, for some reason or other, he is unfit for inspection?—Quite so, that is the only power that I am aware of that is possessed.

638. There is no power to stop the animal from being shipped, although he may be physically in a condition unfit?—There is no power, that I am aware of, beyond what I have now pointed out.

639. I suppose there is no power to interfere at all in the matter of a boat sailing in the course of a storm?—No.

640. Then, with regard to the periodical inspection of the boats, is there a limit of time when a boat must come under inspection again, once a year, for instance?—I cannot say that; that is altogether out of my department; that is a Board of Trade matter entirely.

641. (Mr. Cullen.) Does it come under your notice whether the gradients for the shipment of cattle in Dublin are too great when they are shipped at low water?—Yes, I have thought at times that they might be less steep.

642. Do you ever hear of complaints of ropes being used to drive the cattle down those gradients when they are very steep?—Do you mean to pull them down?

643. No, to strike them on the back?—Yes, I have seen ropes used, but I have not seen them used excessively; the stick is preferred to a rope.

644. But there are no complaints to you about that?—I have not heard any complaints personally, and there have not been any complaints sent to the department in writing.

645. (Mr. Booth.) I have heard evidence of what they call tail-twisting in putting the cattle on board at the Irish ports; have you ever heard of that?—Yes, and have seen it; but I believe that tail-twisting can be carried to a pretty fair extent without doing any unnecessary harm.

646. Can such a proceeding be allowed without running great risk of great cruelty?—Yes, I believe so. I believe it would be less cruel under some circumstances than it would be to prod them with a goad or a stick.

647. (Mr. Smith.) I do not understand how far your responsibility extends; is it only after the beasts come down to Dublin, or do you superintend what happens to them on the railways and at the fairs before they get

down?—So far as the department is concerned, I think the duty would commence with the fairs.

648. I am asking you personal questions. Are you connected with the fairs and the railways; if so, what happens there?—For 10 years I did nothing else but go round from fair to fair, from railway station to railway station, and from port to port.

649. You said you thought, as I understand, that there was not much cruelty to beasts; do you mean by that after they come down to Dublin, or do you mean altogether?—Excuse me a moment. I do not quite understand you; you say that I said there was not much cruelty to the beasts, but did I not say something additional to that? It was the tail-twisting that I was referring to.

650. I mean some little time before that, in answer to Mr. Watson, I think you said so; but those questions simply referred to going on board?—Yes, they referred to the loading up of the ship.

651. Not to the general treatment?—Not to the railway traffic, nor to the fairs, nor to the driving of the stock, but simply to the loading of the ship; that is what I was referring to at the time.

652. I understand now. I did not quite know what you intended it to cover them; but I am afraid that in other parts of the traffic nobody can question there is a good deal of cruelty. I ask you that question?—Whether I think there is unnecessary cruelty in other parts of the transit?

653. Yes?—I do, certainly. I think there is more fault to be found with the driving and the droving than there is in any other portion of the transit.

654. I was going to ask you that. I was going to ask you whether, at the fairs to begin with, you think there is much unnecessary cruelty?—I do. I think it is simply brutal, and I think that is where the majority of the injury takes place—the herding together, the beating with sticks, and making the animals take an uncomfortable position before they are trucked, or before they are put on board the train. The animal starts on his journey from a fair in an unfit condition, very often, for even a train journey, which is the first part of his journey; by the time he has got on board he is in a less fit condition; an animal suffering pain will not have the pain reduced by a railway journey, and want of food. Those animals sometimes leave their homes, we will say the night before the fair, to be driven long distances; after they have gone to the fair, they stand there most of the day, the man as well as the animals, and the animals have undergone a certain amount of punishment while they have been in a fair, “persuasion” it is usually called; that is to herd together or to keep them separate. There are no means of separating them while they are at the fairs. Then a stick is used, often a very heavy stick, sometimes not so heavy, but still a stick is used to get the heads of the cattle in together so that they will not break away. Then after that they have to go to the railway station; they receive a certain amount of unnecessary beating to do that, because the man who owns these cattle simply pays the driver for taking them to the station and loading them, and the more frequently that man can go backwards and forwards the greater amount of money he earns during the day.

655. Then there are no pens in the fairs, and the cattle are simply kept separate with the stick?—There are very few places indeed where there are pens.

656. I suppose you have no power to insist upon pens?—Not that I am aware of.

657. Is the transit on the railway very rough when they get into the trucks; have you any means of comparing that?—There must be some shunting.

658. Have you any means of comparing the treatment of beasts on the railway in Ireland with what they get in Scotland and in England?—I have. I have seen them in England, and Ireland, and Scotland.

659. How do you think they compare?—I think there is six of one and half a dozen of the other.

660. Then there were a great many suggestions and amendments which you enumerated, but you gave no view yourself upon them?—No, I simply enumerated them, and stated that those things had been referred to by various bodies.

661. I think the Committee would like to know what you consider practicable and of importance yourself?—I must admit that I did not come prepared with any

suggestions at all, because I did not anticipate that this evidence that you have been seeking from me now would have been asked for. I have come up suddenly to supply the place of another gentleman. I thought my own evidence was to have been given later on.

662. Then you would rather not give an opinion on that?—I would rather not.

663. Would you give an opinion on this question? One of the previous witnesses suggested that there ought always to be a delay of six hours for the beasts after they get down to the port and before they are shipped into the steamers; would that be practicable?—Certainly not. It would be just as difficult to do that as it would be to take and alter the course of a railway train. You would have to alter almost the whole system of Ireland's fairs and markets to admit of six or seven hours' detention at the port. It would mean that a fair must either be held a day before or else held six hours earlier in the day, and you could not do that, because some of them start at four o'clock in the morning, and starting six hours earlier would mean really starting the day before.

664. Then you quoted the powers of inspection which you have. Those powers are partly for disease and partly for animals being heated, dirty, and over-driven. You, of course, check disease altogether, but have you any actual cases that you remember in which you stopped the beasts from going through the inspection because of their being heated, dirty, over-driven, or for “other causes,” I think you call it?—Yes; they have been stopped.

665. You do from time to time keep them back?—We do.

666. You exercise the power?—Yes, but not very frequently, and there is a very good reason why. The owner is just as well able to tell when an animal is not fit for inspection as an inspector is, whether it is over-heated, or whether it is dirty, or has got a broken leg, or anything like that, and he takes care not to put that animal forward, and his agent is similarly wise. Cattle-men are very wise men in looking after their own interests in that way.

667. The cattleman waits, and asks the inspector to come and inspect them when they are fit, after they have recovered?—Certainly. He makes an application on a given form, which is shown at the back of the paper you have in your hand; he presents that form, and the inspector goes and looks at the animal or animals which are mentioned there.

668. The effect of that power is more indirect than direct then?—It is indirect.

669. If you see the beasts over-driven and fatigued, have you any power to compel the owner to feed them?—No, I do not think so.

670. There is one thing you said about this system of inspection which I have heard criticised rather strongly. It is one of your rules that the beasts should only be inspected between sunrise and sunset. I have heard rather strong complaints of that rule, of the great strictness with which it was enforced, and of an inspector not being able to look at a beast a moment after the almanac time, however light it may be?—During the winter there is an extra provision made that so long as the light is good—and that often is probably half an hour later—the inspection can be continued. There are times after sunset when the twilight is good, and an inspection may be continued for a little while after that, and provision is made for that; special permission is given between the months of so-and-so and so-and-so. Then we have also electric light arrangements in Cork and in Dublin, and I think they are erecting electric lights in other parts of Ireland.

671. But I have heard complaints, and I want to know whether you think there is anything in them, of beasts having to be hurried down at a great pace in order to catch the inspector the moment before the advertised time of sunset when it was perfectly light. Do you believe there is anything in that?—Yes, I believe they have been.

672. But you have got now a latitude in that way, and it need not be so when the light is good?—There is a certain amount of latitude, but the more latitude the worse the case becomes. If you give a man an opportunity of buying animals in a fair, we will say, at 1 o'clock, and he found that it would be just as well at 2, he would be liable to wait until 2 o'clock to try and buy so much cheaper, and then he would blame

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the railway company for not having taken the animals, and the shipping company for not having loaded the animals, to go on board, but he would never think of blaming himself.

673. (*Major Tennant.*) With regard to the inspection of vessels by the Board of Trade, I take it that they are simply given the requirements of the Animals Order, and it is for them to decide as to whether the condition of the ship fulfils those requirements or not. Is that not so?—Yes.

674. I think I heard you say that complaints had been made as to the projections that sometimes occur in the ship, partly the iron structure of the ship, bollards, eyes, and things of that kind. I suppose that is a matter that the Board of Trade inspector would not deal with?—No.

675. Nor would your inspector, any more than our inspector on this side, be justified in interfering with that?—No, if he has no power to do it and I do not believe there is anything in any Order in Council that gives him the power of interfering with the shape of a pin-head or anything like that.

676. Those points are practically not dealt with at all?—They are not dealt with.

677. You mentioned that animals, in your opinion, do frequently go on board in a damaged condition?—They do.

678. I take it you mean that it would be very much better, if it were practicable, that those animals should not be shipped at that time but should have a certain period of rest before they went on board?—Yes, if it were practicable.

679. As a matter of fact, the veterinary inspector who would deal with any question as to the fitness of the animal to be shipped, does not regard the matter from that point of view at all, he only regards it as a question of contagious disease?—Certainly.

680. Then in effect there is nothing to prevent a man from shipping his animals although they may be in a very starved condition, and in an exhausted condition, and really unfit to be put on board?—Yes, unfit to do the journey as they are.

681. Unfit to do the journey as they are?—Yes, in a condition in which I should not like to do the journey myself.

682. You think it is by no means infrequent that the animals are put on board in that condition?—They are put on board in that condition undoubtedly.

683. I do not know whether you are prepared with any answer to the question I am about to put to you, but has it ever occurred to you that any scheme can be arranged under the powers that exist in the 32nd section of the Act of 1878 (which gives power to the Board to protect the animals from unnecessary suffering during inland transit) for securing a proper supply of water and food for animals, and for securing detention; do you think it would be practicable to frame an Order so as to relieve animals from that suffering?—I think you would have to re-construct your vessels if you are going to provide food and water on board.

684. Not on board, but before shipment I mean. Do you think there would be practicable means by which a regulation could be made to relieve the animals from the suffering of being put on board in an unfit condition to travel, and without being properly fed?—Not without interfering with trade very much.

685. It would be a serious interference with trade?—It would, indeed, be a very serious inconvenience. Besides, I might mention at the same time that in my opinion animals are better off going straight through their journey rather than breaking their journey. I believe myself that animals suffer mentally through the fear of a journey just the same as many nervous people suffer from the fear of a sea journey, although the animals may not know that their journey is to be by sea.

686. Then, although there may be a considerable amount of suffering from the animals being put on board in what we may call a damaged condition, you do not think that practically there is any real method of preventing a considerable amount of that suffering; I mean to say, except at such cost that it would be more expensive than it would be worth?—I think so. The matter has frequently been brought under notice, and the question has been considered from several points of

view, and it always goes round the same circle, and we see that we must just start again from where we were.

687. As a matter of fact, some of the animals are not rested at all; is that not so?—It is so, except just for inspection.

688. Although they may have come a very considerable journey?—Yes.

689. And may have had a very exhausting time of it before they come down to the ships side?—Yes.

690. Now as regards the 41 ships inspector that you mentioned; at all the ports where the Irish cattle are shipped, there are one or more ship inspectors, are there not?—Yes.

691. And at many of the ports there are several?—Yes.

692. As a general rule, as I understand, they inspect the ship before any animals are put on board, and then they see the animals being put on board, and they are either on the ship or on the edge of the quay if the animals go over the side?—Yes.

693. So they see a good deal of how the animals are treated?—They must do; they cannot help it.

694. But still is it not the fact that a considerable number of animals, particularly during the winter months, are loaded after dark?—Yes.

695. The animals may be loaded on two or even on three decks in certain cases, may they not?—Yes.

696. Therefore they may have to be driven down, you may say, two tiers of steps to get into the lower hold?—Yes.

697. Please understand that I am not for a moment suggesting that the ship inspectors do not do everything they can do, but would it not, as a matter of fact, be practically impossible for them to supervise all that driving down the gangway into the ship, and then down the ladders into the holds?—Generally speaking the lower hold is loaded first, and the inspector is down in the lower hold to see that loading takes place. Then when the 'tween-decks is loaded he is above to see that, and so on up to the upper deck. The three decks are not loaded at the same time.

698. I quite understand that, but still is it not the fact that there is a stream of cattle going over the side, and that while some of the cattle are going down into the lower hold there are other cattle coming off the quay wall and going down the gangway on to the open deck?—There is a continual stream of cattle, certainly.

699. Could any man see and watch so closely as to prevent cruelty at night while that stream was going down?—No one man could, but then the loading of the vessel is not left in the hands of only one man. At a port like Dublin, where we have a very large number, we have got six, I think it is.

700. But then, they are loading at different parts of the quay, are they not. They are loading several ships very likely at once; and you would not be able to spare several ship inspectors to look after the loading of one ship?—But there is not the loading of several ships going on at once.

701. Is it not so?—It is not generally so after dark. So far as I remember, there are only two companies that load after dark.

702. All I was trying to get at was this. What I was going to suggest to you is, is it practicable during the dark winter months to keep up such a supervision as to prevent acts of, we will not say cruelty, perhaps, but more beating than necessary?—Wanton cruelty.

703. Is it possible; can they do it?—I think, fairly; otherwise we should engage more of them.

704. Of course, we do not hear very much in the inland traffic of individual acts of cruelty, but we know it is going on, and what I want to put to you is, do you think, having regard to the sufferings which the animals go through, and the beatings they get, from the time they start from the West of Ireland to the time they get, say, to Norfolk, that the protection they have got when going on board the ship is very exceptional compared with what they get at other parts of their journey?—Certainly not.

705. Certainly it is?—Certainly not.

706. Thank you; there is no more particular protection there to protect them against suffering than there is in any other part of the journey?—Excuse me, I misunderstood your question. What I mean is, that

they are not exceptionally beaten to get them down below as compared with what they are in any other part of the journey.

707. No, but they are not better off, on the other hand?—They are no worse off there.

708. No worse off or better off. You may say it is part of the whole?—It is part of the whole; but still, there is a supervision which cannot take place in the fairs and other places.

709. Then, of course, it is more needed there, you may say; it is more difficult to get animals in a dark night down a steep gangway, or up a steep gangway, and then down to the lower hold, than it is to get them along the road, or to get them into their proper place in a fair or something of that kind?—That stands to reason.

710. You mentioned that there have been several prosecutions, I understood, during the last five years; can you tell me for what special offence these prosecutions were; were they for overcrowding, or were they for cruelty, or for what?—For overcrowding. There is one case which occurs to me now for overcrowding.

711. Did you get a conviction as regards that particular point?—Yes, we did. I think it was a 10l. fine, I do not, however, remember in what year.

712. Is it not a fact, that cattle suffer very much from the fact that they carry their horns, and that they horn each other to a very great extent both in the yards and also on board ship?—Yes; they introduce themselves to each other in rather a strong way with their horns.

713. Do you think the cattle that are horned travel very much better than those that are horned?—I do.

714. Has it ever occurred to you that there would be any practical method of making dishorning more general than it is at present, and, at the same time, without hurting the special tenderness that some people feel as regards the cruelty of dishorning?—I think an animal can be dishorned at an earlier age than is in some cases done, and I think they should be dishorned. I see no more harm in dishorning a young animal than I do in a man shaving himself.

715. When they get older the suffering, I suppose, is considerable?—Certainly it is.

716. But if it is done in the early days the animal gets an advantage?—It is a decided advantage.

The witness withdrew.

Adjourned to to-morrow at 12 o'clock.

SECOND DAY.

At No. 7, Whitehall Place, S.W.

Wednesday, 21st March 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. WILLIAM FIELD, M.P.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.

Mr. INGRAM B. WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, Secretary.

Captain SCOTCH called and examined.

730. (Chairman.) You are the principal officer of the Board of Trade for Ireland?—I am.

731. And you have under you all the Board of Trade surveyors in that country?—That is so.

732. Your surveyors survey all the cattle ships?—They do.

733. They grant certificates for the requirements of the Veterinary Department of the Privy Council?—That is so.

717. I think you mentioned that in Ireland there are a large number of railway stations where cattle are trucked, but where there are no railway pens?—Every station that cattle go on is a railway pen.

718. I mean they have got no railway pens at all sufficient?—They have loading ways, V-shaped loading ways, which are very largely used, but there may be some loading banks without any of them. It is more convenient in many cases to be without those places.

719. I suppose the reason why there are not regular railway pens built at those places is that they are used so infrequently that it would not be worth the while of the railway companies to construct them?—They are used as lairs very frequently rather than as loading pens.

720. One other point, as regards insuring animals. I think you mentioned that some of the shipping companies insure the animals to walk ashore?—Yes.

721. Do you think that is a good thing or a bad thing?—It depends from which side you are looking at it.

722. I mean to say from the humane point of view?—Yes, I think it is a good thing, certainly, to insure to walk ashore.

723. You think it affords them protection?—It does, certainly.

724. Perhaps you have not had many opportunities of seeing cattle landed?—I have not seen them landed so frequently as I have seen them loaded.

725. (Sir W. Kaye.) Under this Amendment Order of 1886 it is for an inspector to decide whether an animal is or is not unfit for examination?—Yes.

726. If he decides that it is unfit for examination he may require the owner to render it fit for examination by rest?—Yes.

727. Or cleansing?—Yes.

728. If that animal is not certified by the veterinary surgeon, and not branded, it cannot be loaded into a ship?—No, it is an illegal arrangement if it is done, and if it is done the captain is answerable for having taken it on board.

729. (Mr. Watson.) There is a very heavy penalty, is there not?—Yes.

Mr.
M. Hedley.

20 March 1894

Capt. Sconce.

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Capt. Sconce. stick. What sort of persuasion might you apply?—We have no legal powers.

21 March 1894. 737. Have you any reason to believe that any ships to which you refuse certificates are employed in the trade?—I think that they generally comply in the long run with our requirements, and no certificate has been actually refused.

738. You arrange with the Irish Privy Council as to when you should have those surveys, do you not?—Yes.

739. You are appointed by the Lord Lieutenant?—We are.

740. But I understand that you do not receive any pay—you are the paid officers of the Board of Trade?—Quite so; it is an appointment from the Lord Lieutenant, without any salary at all.

741. Then how do you report? Your certificates do not come to the Lord Lieutenant, do they?—Our certificates come to the Board here, and then from here they are sent to the Veterinary Department at the Castle, and the duplicates are generally sent to the master of the vessel.

742. If you are unable to grant a certificate, what course do you take?—There is another form, showing that the certificates have not been complied with, C. 2, which is forwarded to the Veterinary Department at the Castle.

743. Do you frequently have occasion to forward them?—We have not.

744. Do you remember any occasion of forwarding a record of refusal?—No, I cannot say that I have got any record in my mind just now.

745. How often do you generally survey?—Those ships are usually surveyed once a year. The certificates are for 12 months.

746. Then do you often make intermediary surveys?—In large ports we have more opportunities of seeing the vessels, such as Dublin, Belfast, and Cork, but at the outports, where we have no officers stationed, the vessels are much less frequently examined.

747. Under what circumstances would you make these surveys?—If the surveyor is passing along the docks, and sees a vessel being fitted up, he would visit the vessel of his own free will. There are no statutory powers to do so, but we just visit the vessel for our own satisfaction, to see that the Act is complied with, or rather that the regulations are complied with; it is the regulations more than the Act.

748. Will you please state to the Committee the principal facts that you mention in your certificate. This is a form (*handing the same to witness*). Will you state the principal things in it?—The size of the pens, and a detailed list of all the pens; and that the ventilation throughout is as required by the Order in Council. Of course, every person has his own ideas about the ventilation. I do not know that we actually know what the Order in Council is about the ventilation, more than as to it being satisfactory. "Satisfactory" is a very vague sort of a word.

749. Do you suggest that they should be made more definite?—I think so.

750. Do you think that there should be a greater ventilation for vessels than is at present accepted as satisfactory?—Yes, I do.

751. Is that the unanimous opinion?—It is the unanimous opinion of the whole of the staff.

752. We had some definite suggestions by a witness as to the state of mechanical ventilation. Does your Board favour that?—They agree to that. We have in a great many vessels mechanical engines for both induced draught and extracting the foul air, but in a great many instances these are not strong enough, not powerful enough.

753. Does your Board fix any minimum of ventilation per head of the cattle?—That is a scientific question.

754. I simply ask you whether you are in favour of the principle?—Yes, but I am rather in favour of extracting the foul air.

755. Have you instructions as to the head room for cattle? I see complaints are made that cattle carried between decks often have so little head room that it is very difficult for the attendants to get at them?—The Order in Council does not specify any height of decks at all.

756. Nor do they specify about alleyways?—No.

757. I have got here a copy of your instructions which you have been good enough to let me have, and I see that it is intended that certificates are to be granted as to the number of animals carried upon any voyage?—We cannot enforce any penalties.

758. Do you state in your licence what number of cattle the vessel should carry?—No, we simply state the size of the various pens. Of course some of these pens, if the cattle are very large, will carry a fewer number, and if the cattle are small, they will carry a larger number.

759. Practically they can put in as many as they can?—As many as these pens hold, of sheep, cattle, pigs, or whatever they may be.

760. I see a copy of the cattle certificate is sent to the master of the vessel?—Yes.

761. Is he required to accept it?—No, the cattle certificate is often expired, and they go on carrying cattle before it is again renewed.

762. In case of an accident, or some great fatality occurring to cattle, as in the case of the "Mayo," or "Blackrock," would it fall on the Board of Trade Department to make any investigation so far as the cattle are concerned?—It would not, except we received a casualty form from the Customs as to an accident having happened in that particular ship. In that way we would inquire into it, not from any power that we have of inquiry about the cattle, but an accident happening to that particular ship during that particular voyage.

763. Have you in your surveys any instructions to have regard to the stability and so on of the fittings as a factor in the safety of the ship?—I have some with respect to the fittings. The sizes of the pens I do not think are too large, but I think a 15 feet board by itself is too long without some intermediate support.

764. But you have no say in that?—We have no say in it. I think the fittings might be improved considerably without any attendant expense to the ship-owners.

765. Should you be, from the Board of Trade point of view, in favour of making the pens smaller, and reducing the size?—I would not, if they were substantially fitted.

766. Is there any other point that you would like to refer to?—I think not. I would suggest that the applications should be made to us for the survey of the cattle fittings when the certificate is expired, in the same way as the application is made for the renewal of the passenger certificate. When the passenger certificate expires the shipowner makes application to us for renewal, but in this case we never know when the cattle certificate has expired or has not expired.

767. Would you have it made an offence to carry cattle without a certificate?—I would; before they carry cattle again that certificate ought to be renewed, so that the master can produce a certificate to any legally constituted person, and it should be made a penalty for a ship to carry cattle without being in possession of the usual cattle certificate.

768. Then I take it that if that were done, and your ideas as to the ventilation were carried out, that would at least ensure proper ventilation as well as proper fittings?—I do not think anything more should be done.

769. You think no more power should be given to the Board of Trade?—I do not think it should.

770. (*Mr. P. Smith.*) Are the certificates that you give under this Order of 1886?—Yes.

771. That is the only power that you have?—Yes, that is the only power. I do not know about statutory power; that is the only power we act under.

772. But under that Order there is no power of penalty, no power of exercising anything but moral suasion?—None at all; we have no power at all.

773. Why is that? Have you generally found the owners of the steamers ready to meet your suggestions?—As a rule, certainly we have.

774. Then I do not quite understand. Does your certificate and inspection extend to all the steamers plying from Ireland to England and Scotland?—It ought to apply to every ship that carries cattle.

775. Does it apply to the companies whose headquarters are on the Clyde, or on the Mersey, or only to companies whose headquarters are in Ireland?—It

does not signify as long as they carry cattle; so long as they carry them from an Irish port to an English or a Scotch port.

776. There is no corresponding inspection on the English side, or on the Scotch side?—The English officers have no statutory powers at all.

777. It is left in the hands of your department, acting under the Lord Lieutenant?—Yes.

778. But your power covers all the steamers coming over to the two countries?—Yes, it does.

779. A question was asked as to the holding of an inquiry in case of accidents?—Yes.

780. Do you think it would be judicious that you should have the same powers of holding inquiry in case of accidents to cattle that you have as to loss of life?—That would be rather a difficult thing. The inquiry would have to take place in England, because the casualty generally takes place between Ireland and England, so that the loss of cattle is not in England or Ireland, but the loss of cattle takes place on the voyage. So that an inquiry, to be of any use, ought really to be held at the port of arrival.

781. But assuming that the same course is pursued where there is a loss of human life or anything else, do you think it would be expedient that inquiries should be held where there was no officer?—I do not think it would; I do not know what it could produce, or what the result of the inquiry would be. There would be no harm in doing it, but I do not see any good in it.

782. It would not result in more than your ordinary inspection?—It could only result in one thing; that the weather would be very bad, or the hatchways were battened down, and that the cattle were knocked about. That would probably be the end of it; in nine cases out of ten that would be what would be found.

783. I suppose in nine cases out of ten where there is great loss of life it is the result of some unpreventable thing?—That is so. The only great loss of life was in the case of the "Blackrock."

784. You consider that the thing that is to be remedied is the average passage?—The average passage; there is as much harm done in warm weather as in cold.

785. Why is that?—Because if you ship cattle wet it has a bad result.

786. What you want to improve is the general condition of things?—That is so.

787. Then you spoke of mechanical ventilation. Would it mean serious expense to put effective mechanical ventilation into the steamers?—That I do not know. I would not like to say; it would depend upon the size of the engines, and perhaps the fittings that they have on board the vessel. Some vessels may be able to comply with the fittings that they have; but if you put in new engines it would entail considerable expense.

788. You do not care to express an opinion whether it would be reasonable to insist upon mechanical ventilation?—I think it would be reasonable.

789. But considering the expense, would you think it reasonable?—That we have nothing to do with. I think that it is reasonable that the mechanical appliances should be fitted.

790. (*Mr. Field.*) I understood you to say that in your opinion you ought to have certificates granted to ships fitted to carry cattle?—Just so.

791. Are those certificates generally granted now?—They are; every ship that carries cattle has to have a certificate.

792. May I ask whether the ships to which these certificates are granted carry out the Orders of 1886?—They carry out everything contained in this form.

793. They make a provision for it?—Yes.

794. Can you explain to me then how it is, if those Orders are carried out, that there is such a number of complaints about the carriage of cattle?—We have not seen the complaints; no complaints have ever been sent to me.

795. Am I to understand from you that the reason why this is not rectified is because complaints have not been sent direct to the Department concerned?—I do not know that the complaints are necessary.

796. Here are six letters that I have got this morning from gentlemen who offer to give evidence, and all my lifetime I have had nothing but complaints?—From whom? Capt. Sconce.
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797. Everybody. Here is one from Middleton, and others from Leeds, Leicester, and Halifax, and there is another from Portsmouth, and another from Swansea. I could get you 500 such letters, if you desire to multiply the complaints?—What is the general nature of the complaints?

798. The nature of the complaints is ill-usage, and of the beasts consequently being in a bruised condition. That is the nature of the complaints?—Yes.

799. I do not want to examine you on that of which probably you have no knowledge. If I understand your evidence, your orders are not mandatory?—No.

800. You have no statutory power?—That is so.

801. The English authorities have a statutory power, a certain amount of statutory power about the cattle that land here, but you have none on the Irish side?—Quite so.

802. Is it to be understood from your evidence that there is a kind of lapse of authority between England and Ireland, that is, in the carriage of cattle between England and Ireland; who is responsible for them there—who is responsible for them on the sea voyage?—The Irish people are responsible for their being shipped, and then when landed, of course there is no necessity for any more authority, and when the weather is bad, and they get knocked about, that is an unfortunate coincidence.

803. It just comes to this. I do not want to take up now the question of bad weather or of exceptional loss; my object in attending as a member of this Departmental Committee is to find out why the normal conditions under which the traffic so carried has led to such bad results. So far as I can understand your evidence, it appears to me that just on the seas, between England and Ireland, there is nobody responsible?—If you ship cattle in a very wet condition, and in warm weather, they are bound to give off a lot of vapour.

804. I do not want to get at that. I want to know if anything occurs during the normal state of the carriage between England and Ireland, I want to see whose duty it is to look after the offenders, if we may call them so, the shipping companies, and to bring them to book?—I do not know. I have nothing to do with it.

805. As an Irish officer, and in your position as a travelling inspector?—I am not a travelling inspector. Our duty is granting this particular certificate, and when we have granted the certificate, which is for 12 months, our duty ceases. We do not superintend the shipping of the cattle, and we never see the ship.

806. The Board of Trade are not responsible?—No, they are not in any way responsible beyond granting this particular certificate once every 12 months.

807. My object is to see where the responsibility can be fixed. Are you aware if proceedings have ever been instituted by the Board of Trade?—The Board of Trade have not done so; they have no power to do it.

808. They have no power to institute an inquiry?—No, they have not.

809. Is the Board of Trade satisfied through you, as their principal officer, that the normal condition of the carrying trade of live stock between Ireland and England and Scotland is satisfactory?—The Board of Trade have nothing to do with it.

810. You would advise that these certificates should be granted every year, and that certain improvements in ventilation should take place; that is about the effect of your suggestions?—That is all.

811. (*Mr. Cullen.*) May I ask you, in the case of the "Blackrock" that you referred to, where there was a large number of cattle killed on board that vessel, would you recommend an inspection or an examination into the condition in which those cattle arrived, or not?—Under the circumstances, the ship being damaged, we did make an inspection.

812. But you are not responsible?—We are not responsible for the cattle, but for the ship. It was the accident to the ship that was the cause of the loss of the cattle.

813. Do you not think it would be advisable to have some authority in this country to examine into the

Capt. Sconce. conditions in which the vessels arrive?—That is for the Government to consider, and not for me, I am afraid.

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814. I ask you your opinion about it?—In the face of the gentlemen present I would rather not express an opinion on the matter. When accidents to the ships occur, we inquire into the matter, but not as to the loss of the cattle.

815. You were not responsible for that?—I was not in any way responsible for that.

816. (*Mr. Booth.*) You say that the vessel's certificate may have run out, and that a vessel that has had a certificate may be run without one?—Yes.

817. Can a vessel begin to carry cattle without having first applied for a certificate?—I do not know of a statutory power to compel ships to have certificates at all.

818. Do you think vessels are now carrying cattle without them?—We renew them whenever we know that the certificate has expired, but unless we find out for ourselves that the certificate has expired, we have no information.

819. You mean there are vessels running now that have never been certified by the Board of Trade?—I should be sorry to say there are, but there may be.

820. There is nothing to prevent them?—There may be in an out port. Where we have a permanent staff we take care that it is not so, but in many ports where we have not a staff that may be so.

821. How do you look out for such things; or does not it come under your authority at all?—If an officer was sent to any particular port for other duties, it would be my duty to tell him to see if any steamers were carrying cattle, and if they carried cattle to inspect them; but I would not send an officer purely on the chance of finding a steamer that may be carrying cattle, and especially as no expenses are paid in any way to us.

822. Does the Board of Trade inspection go to the point of the general construction and size and character of the boat for carrying cattle, or simply to the internal fittings?—To the internal fittings.

823. Nothing more?—Nothing more whatever.

824. A vessel of no size may apply, a very small one, and get it?—Quite so.

825. Nor do you look to see as to whether she is sufficiently stable to prevent damage from rolling?—We do nothing of the kind.

826. The instructions under the Orders being somewhat, as you say, general and vague, I suppose all the inspectors naturally have different ideas of what is proper and what is sufficient, and these are the limitations largely used in the Orders?—That is exactly what it is, it is quite open.

827. That is the reason that you consider that more definite Orders are wanted?—Yes.

828. Does your part of the inspection go for footholds for the animals at all?—Yes.

829. That simply states that the floor shall be fitted with battens or other proper footholds?—Yes.

830. What is the practice with regard to the footholds what are considered proper footholds?—Generally about three or four in each pen, and the lower board at the side ought to come down to the foothold so as to prevent the cattle's hoof from getting between the foothold and the lower board.

831. There are three boards?—There are three boards.

832. That is one above another?—If the lower board does not come close together, and if the cattle tumbles, his hoof might get in between the two, so that it is very necessary for it to come sufficiently close to the foothold to prevent such an accident taking place.

833. These footholds are fastened fore and aft?—Yes.

834. We have had a great deal of evidence about the difficulty of the cattle being tied by the head rope or not. Are we to understand that when they have no head ropes they are practically loose? Are the footholds simply in one direction for the cattle standing athwartships?—If not tied they may turn where they like.

835. Are footholds which only go in one direction of any use?—Not if the animals turn round.

836. So that if they are allowed no head rope the footholds ought to be in both directions, as is usual in the Atlantic trade?—Yes.

837. Do you know of any cases in the cross-channel traffic in which there are footholds both ways?—I do not.

838. Mr. Parker Smith asked as to an inquiry in case of a loss on arrival here, and you said you did not think the inquiry would be of any use; surely it must tend to the discovery of the cause of that particular casualty which is the object surely of an inquiry?—Yes.

839. Then with regard to these exceptional cases where there is heavy weather, which is liable to occur, and which, as we all know who have paid any attention to the subject, often happens, and causes severe loss to a greater or less extent from the knocking about in the bad weather; when you talk about the accident being unpreventable, surely a great deal would depend upon the stability of the shifting boards and the division boards, whether they would stand the weight of the cattle being thrown against them?—I quite agree with you. I have said that I thought that a good many of the fittings might be made more substantial.

840. Do you not think that the division boards should be of such strength as to resist the weight of the cattle thrown against them?—You require something more than that; the weight of one large beast would be much more severely felt than a small one.

841. But the weight of any cattle—supposing these pens were fitted for five beasts—then the unsupported length and thickness of the board should be such as to resist the weight in case those cattle are sent down against it?—Certainly.

842. In all the cases that we have had lately would not that have prevented the great loss and injury that occurred?—Yes, they ought to be made stronger.

843. And if you had smaller pens, by that means you would strengthen the board, because the supports would be nearer together?—Or put an intermediate support to the longer board. If you have a 15 feet board now without any support in the middle it is of course weak, but if a stanchion were placed between the two at 7½ feet that would double the strength.

844. Probably more than double it?—Yes.

845. When you make a yearly survey of a vessel which has been already surveyed, do your officers see that the fittings are all in place at the time?—Yes.

846. So that there is not any missing?—Yes.

847. And do they look to see that they are not worn out at the ends and are not rounded so as to be liable to come out of the socket?—That is part of their duty; but 12 months has elapsed.

848. And that may be too long a period. Only one more question. Would it be desirable for the Board of Trade to have any say as to the sending away of cattle boats during the course of a storm; or is there anything of the kind existing?—I do not see it.

849. It must be left to the responsibility of the steamer owner?—No Board of Trade officer could stand by and wait.

850. (*Mr. Watson.*) With reference to these certificates, do you keep a record of the issue of such certificates?—We keep a record of those in Dublin.

851. And of their time of expiration?—We do in Dublin.

852. You know in Dublin whether they have expired or not?—Yes.

853. Do you not know whether these records have expired in other ports?—Lately we have kept a record in Belfast. I think we know all those in Belfast, but we have no record of vessels at Newry, Dundalk, Drogheda, Waterford, or any of those out of the way places. Occasionally vessels come in that we know nothing at all about.

854. In cases like Dublin and Belfast, where you have records, do you take any steps to renew the certificates when the 12 months come to an end?—We do; certainly we take steps, and sometimes, though it depends upon the work that our own staff have, our staff being limited in Ireland, it may not be available at that time, and when the staff is available, it may possibly be that the ship may be away, or the fittings may not be in their proper places ready for

examination. But we have to intimate to you, for instance, or whoever it is, that we are ready to inspect a vessel when the vessel is ready for us to inspect.

855. Do you do that at the termination of the certificate, or before its termination?—Before. There is no trouble in Dublin; it is not a question of the large ports at all, but I should prefer that we should have the intimation given to us rather than that we should have to find it out for ourselves.

856. At present you take the initiative yourself?—That is so. We have to find it out ourselves.

857. But in Belfast and Dublin the things go on pretty well?—We try to arrange.

858. To arrange the renewal of the certificates?—We arrange with no friction at all, because a great many of the passenger steamers at Belfast are certificated steamers, and we make the cattle certificates expire at the same time, and in that way we manage to embrace all the Belfast steamers; rather more so than in Dublin.

859. You were asked with reference to the ventilation: the Order is that they are to secure a proper supply of air?—Yes.

860. I think Mr. Parker Smith asked you with reference to your view, as to whether there should be a fixed amount of air passed through in cubic feet; did I understand that you were in favour of that?—I am in favour of more air.

861. But not dealing with it as so many cubic feet. Do you know of any way in which it could be dealt with as so many cubic feet?—I think it might be dealt with by the number of cattle on board the ship, or the number of cattle that that ship is carrying, that you could have some forced draught which could be easily calculated, and allow so much per head for the cattle.

862. But you are in favour of an artificial supply of air?—I am rather in favour of extracting air out than driving air in.

863. Have you, in any port of Ireland refused a certificate?—Well, we have not perhaps gone so far as that, but we have told them unless they do so and so we would not grant the certificate. But we have never actually refused. They have always done something to meet us more than half-way, and so allowed us to grant the certificate.

864. I gather from your evidence that the fittings of the ships are practically sufficient, with the exception of what you suggest, to shorten the length of the long boards?—That is so, and to make the lower board come on to the foothold, to prevent any possibility of the cattle getting its hoof underneath it. Another important thing I would suggest is, that all scuppers should invariably be covered with a grating, not a fine grating, but some bars, so as to prevent the cattle getting their feet down the scuppers, which they are very liable to do.

865. Does that happen?—It has happened, and especially if they are not tied up, and in landing or going on board they might do so, and I think it is very necessary that that should be done.

866. You made an observation with reference to the hatches being battened down; I did not quite understand it, was that referring to cases of exceptional weather?—Purely so.

867. Have you known of cases where the hatches were battened down?—I cannot exactly say; I have heard of such a thing.

868. And where loss has been caused by it?—I do not know.

869. Or have you alluded to it as a thing that might so happen?—We do not get any official reports. I do not wish to state as positive evidence, things that I really do not know. If you batten down a ship's hold, the air must be much more vitiated than having it open in fine weather.

870. As to the inquiry into the "Blackrock," that was with reference to the ship?—Yes, as far as the Board of Trade is concerned, it is purely and simply the ship; it arose from some accident to the machinery.

871. It has nothing to say to the way in which the cattle were carried?—Nothing whatever.

871. I think Mr. Booth suggested that serious loss may happen annually. Have you ever known of cases like the "Blackrock"?—Never so many.

873. Was not it a wholly exceptional case?—I think we have had 50, but never over 100. That is the first instance that I have known over 100.

874. And the weather on that occasion was exceptional?—Perfectly exceptional, and even that large loss would not have happened if it had not been that the rudder chains got out of gear, and the ship got into the trough of the sea; it was a wonder that any cattle arrived at all.

875. Therefore your observations about improving the safety refer to the ordinary carriage, and not to cases of that kind?—Quite so.

876. It is hard to say what might happen in such cases?—That is so.

877. (*Sir W. Kaye.*) This certificate, which your office issues, accurately states their position with reference to the Privy Council in Ireland. An inspector shall be appointed to inspect the ships' boats, and vessels used for carrying or moving animals, and shall report as to the same, and as to the steps to be taken in order to ensure compliance with the Contagious Diseases (Animals) Act, 1878?—That is the appointment.

878. The appointment which they get enables them to carry out that provision?—That is so.

879. On these cattle carrying ships the Orders in Council make certain requisitions which they must comply with before they get a certificate?—Yes.

880. And the duty of your inspectors is that they see that they comply with the Orders in Council?—Yes.

881. Of course it follows that any master or owner of a vessel taking cattle on board a vessel that had not this certificate ought to be liable to a penalty for non-compliance?—He ought to be.

882. (*Major Tennant.*) The fact that the Veterinary Department appoint the officers of the Board of Trade inspectors under the Act is nothing more than this: it gives them the power of entry to the ship?—It does.

893. As a matter of fact when they visit those ships and give a certificate either that the fittings are or are not satisfactory, it simply means this: it is an intimation to the Veterinary Department that the regulations are or are not carried out?—That is so.

884. But the Board of Trade do not institute any proceedings, or take any steps, they leave that to the Veterinary Department?—That is so.

885. They act as inspectors of the Veterinary Department, and simply let them know what the condition of each ship is, according to the inspector's view?—Yes, that is so.

886. As to the question of ventilation, I think you mentioned that the requirements are very vague in the Order?—Yes.

887. And I should rather like to know what view you take, or your inspectors would take, as to what are the requirements as regards ventilation; the Order says, "Every such place, if enclosed, shall be ventilated by means of separate inlet and outlet openings." Would you regard that, as requiring two openings to each hold, independent of any hatch, or would it include a hatch?—That would depend upon the number of cattle that was carried. You see, that sometimes they carry on one deck and sometimes they carry on two decks.

888. I am assuming a covered hold?—They require two ventilators.

889. Independent of the hatches?—Most certainly; and they have that.

890. Would you in any way interfere with the position of those ventilators—for instance, would you require that the ventilators should be carried to some place near the forward bulkhead, or anything of the kind?—Yes, that certainly would be done.

891. You would interfere, and insist upon it being put in a suitable place?—If we found that it was not done so, we would recommend it being done at once, certainly.

892. As to mechanical ventilation, which I understand you advocate, I should like to ask you this question. You require some steam power to set the mechanical ventilation going, do you not?—Yes.

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Capt. Sconce. 893. Are there any requirements as regards the Board of Trade that would interfere with the power to drive the ventilators being taken from the engine which drives the ship; would you object to the mechanical ventilation being attached to the engine which drives the paddles or the screw?—I do not think so. It would take away from the speed of the vessel, it would decrease the steam in the boilers, but the Board of Trade would not interfere.

894. You would not interfere however much power was taken away?—No, it would take away the power from the speed of the ship.

895. But you would not interfere?—No, subject to all the requirements being carried out and correct. The Board of Trade object to more holes being made in the boilers than necessary.

896. I wish to know whether there is any point at which you would interfere?—It is more an engineer's question than for me.

897. But you do think that the Board of Trade might interfere?—Yes, I am satisfied unless the thing was perfectly correct they would interfere.

898. It possibly might be dangerous?—If it was dangerous the Board of Trade would not sanction it.

899. As to the amount of ventilation, how would you propose to regulate the amount of ventilation or the amount of air to be injected into the hold for a certain number of cattle, supposing there was a mixed cargo of cattle, sheep, and swine?—There are two ways: it might be so many cubic feet of air being pumped into or extracted, or so much fresh air being taken in according to the number of cattle.

900. Cattle, sheep, or swine?—Quite so, per head.

901. Independently of what the nature of the animals would be?—Independent of the nature of the animals.

902. But supposing you had accommodation for 100 head of horned cattle say, and supposing they did not carry horned cattle but carried swine, would you forbid more than 100 pigs being carried in that hold?—No; in that case the forced draught would not be required to be driven so fast; if they could control the amount of air driven in or the amount of air extracted, if they found that the smaller cattle did not require so much fresh air as a full grown bullock, they might make the engine go slower.

903. What I want to get at is this: would you propose by Order to limit the number of live animals that you would carry in any one hold to only 100 animals, whether cattle, sheep, or swine?—Do you mean to make any difference?

904. I want to know whether by Order you would propose to limit the number of animals that would be put into one hold?—I think not; if there is space to carry them why should you limit them?

905. I understood you to say that there should be a certain quantity of air injected into a hold to supply a certain number of cattle. If you are going to lay down accurately the quantity of air to be injected into a hold you must lay down the number of animals in the hold?—If there was not the amount of air going in I would limit the cattle.

906. How would you get at it?—I expect that is a scientific question how much fresh air each cattle, sheep, or swine breathes. I do not know.

The witness withdrew.

*Mr.
F. A Fulford*

Mr. F. A. FULFORD called and examined.

907. (*Chairman.*) You are a travelling inspector of the Board of Agriculture, are you not?—I am.

908. And you are in a position to give us some evidence as to the losses which occurred to the steamship "Blackrock" and other Irish cattle boats in November last?—Yes.

909. Will you please to tell us what you wish to say about it with respect to the "Blackrock"?—The loss of the cattle on the "Blackrock" was of an exceptional character, and was heavier than that in the case of the other vessels which I will mention later on.

910. Will you please take the case of the "Blackrock" first?—Yes. The "Blackrock" left Dublin on Thursday evening, the 16th of November, with the following cargo on board: Cattle 347; and sheep, 129. Of the cattle, 138 either died on board or were slaughtered immediately on landing at Liverpool, and 209 were delivered alive to the railway companies, but four of these died after delivery. Of the sheep, 35 were washed overboard, 54 delivered alive to the railway companies, and 40 delivered dead at the Liverpool abattoir.

911. What was the cause of this heavy loss?—The cause of the loss was no doubt an accident that happened to the steam steering gear; the chain got off the quadrant during very heavy weather indeed. The ship lay in the trough of the sea, and with the heavy lurching the cattle were thrown violently against the breast boards. Some of the breast boards on the starboard side carried away, and the cattle that got adrift shifted over to leeward and got amongst the cattle that were penned on that side, and they lay in heaps. The cargo in the lower hold shifted, and the vessel got a permanent list, and she was canted over at a considerable angle, a good deal of water came down the main hatchway, and that got locked in the angle between the 'tween deck and the side of the vessel, and I believe in consequence of the water being locked there some of the animals were drowned on board as they lay in a heap.

912. You saw the "Blackrock" shortly after the occurrence, did you not?—I ought to explain that I saw the "Blackrock," but it was not until after the cattle had been carried away. I had no knowledge of the

accident until afterwards, and my only opportunity of judging of the cause of the loss was from the evidence of the officers of the ship, the officers of the Liverpool Local Authority, from general inquiry, and from inspection of the vessel herself and the fittings.

913. Then from the inspection of the vessel herself and the fittings, have you any suggestion to make as to the structural defects which may have contributed to the accident?—I took measurements of the fittings, and I came to the conclusion that the fittings were quite up to the standard that could be reasonably expected. I might perhaps describe them. The stanchions of the pens were of circular iron two inches in diameter. None of these had broken or carried away from the deck, but one or two of them were bent. The breast boards and the side boards which I examined were of sound timber 2½ inches by 9 inches, and some of them 9½ inches. The way in which the boards are fitted to the stanchions is this: There are iron sockets through which the stanchion passes, and the boards are slipped into these sockets, and then an iron pin is put into the top to prevent the cattle getting their heads under the boards and lifting them out. Some of those boards were broken, about 10 or 12, on the starboard side; but that was caused, in my opinion, by the cattle being thrown violently against them. It was not simply lurching against them, but the vessel was over at a very great angle, and she was, as I have said before, lying in the trough of the sea for a considerable time. An endeavour was made to mend the chain which had come off the quadrant, and I believe that in tautening it up one of the links gave way, and they were then helpless for a time, and the wonder is that the vessel arrived at all.

914. You do not think, as far as I can see, that it is necessary to suggest any greater care in the inspection?—I believe with regard to the fittings that every care had been taken to select good material; there was no reason to suppose that any of the boards were defective.

915. It has been suggested to us that the boards might be shortened; would that have prevented their giving way?—You mean that the length of the pen should be diminished and that fewer cattle should be put into one pen.

916. The shortening of the boards would involve a change in the pens, but it was suggested that a 15 foot board was inherently weaker than a shorter one?—Of course a 10 foot board of the same scantling as a 15 foot board is stronger.

917. (*Mr. P. Smith.*) Were those boards 9 inch by 2½ inches, 16 feet boards, or what was the length of them?—They were from 11 feet to 11 feet 2 inches. The side boards varied from 8 feet to 8 feet 4 inches in length.

918. There were a number of other losses in cattle that occurred during the month of November, were there not?—About the same time there were losses that occurred to boats which started about the same time as the "Blackrock"; the "Mayo" was one.

919. (*Mr. Watson.*) Did the "Mayo" start the same day?—She started on the 17th November and arrived on the 18th with 46 beasts dead on board. It appeared that in mid-channel the shifting boards of one of the pens on the port side broke and seven heavy beasts got adrift. Those were thrown over to the starboard side, and getting amongst the other cattle caused the loss.

920. (*Chairman.*) Then as to the damage to that vessel, will you describe it?—I saw the vessel afterwards on the 22nd of November. I found that the shifting boards were substantial; they were 2½ inches by 12 inches, a little more than the "Blackrock."

921. And their length is what?—Their length varies from about 11 feet up to 13 feet 6 inches. It appeared that the breakage was caused by the heavy lurching of the beasts against those boards, not that they were of defective material, so far as I could ascertain.

922. Have you finished with the "Mayo"?—I was informed by the officers of the company that the weather was quite exceptional, and that is borne out by the losses of other vessels. I had occasion to inspect an Atlantic vessel which arrived about the same time, and the captain said that they had not come across such weather for 20 years. It was common knowledge that the weather was quite exceptional.

923. The pens in the Atlantic vessels are smaller than they are in the Irish boats are they not?—The pens in the Atlantic vessels are not allowed to exceed 9 feet in breadth by 15 in length. These regulations apply also to Irish boats.

924. As you have inspected Atlantic vessels, have you come across any breakages of the pens owing to bad weather?—Yes, I have. The loss on the "Canopus," oddly enough, was occasioned much in the same way as that on board the "Blackrock," namely, the breakage of the machinery, and not being able to keep the vessels head up, she lay in the trough of the sea, and the cattle were thrown against the fittings.

925. You have nothing more to say about the "Mayo," have you?—No, the next I have on the list is the "Meath."

926. (*Mr. Watson.*) When did the "Meath" start?—She started on the 18th November at 9.45 p.m., and arrived at 6.15 p.m. on Sunday the 19th at Liverpool, where the "Galway," the "Kildare," the "Leitrim," and the "Cavan," all boats belonging to the City of Dublin Steam Packet Company, arrived. The losses on those five vessels were comparatively trifling: the "Meath" lost one beast; the "Galway" one; the "Kildare" one; the "Leitrim" one; the "Cavan" two. The "Cavan" arrived on Saturday, the other boats having arrived on Sunday.

927. (*Chairman.*) Have you any remarks to make with reference to those vessels?—The opinion that I arrived at after inquiry and which I expressed in my report to the Board of Agriculture was, that the losses were not due either to defective material or to any negligence on the part of the company or their officers, and it might be fairly assumed that it was entirely owing to the extraordinary stress of weather that these boats had encountered.

928. I shall only ask you one more question in connexion with your duties as inspector. Do you frequently go across the Irish Channel, and do you find many cases of animals going under from getting trampled on board ship?—I have not come across specific cases on the Irish boats. With the exception of those boats I have referred to I have not done very much inspection of Irish cattle boats. But it does happen on board the Atlantic vessels, and it generally is found that the animals that have succumbed in that way have been what

they call distillery fed, and it occurs in the river before they go out to sea and get a breeze. They leave the River Plate or Quebec we will say when the weather is extremely hot, and it is very difficult to get a draught down to the animals.

929. (*Sir W. Kaye.*) Have you given the number of cattle that were on board the other boats besides the "Mayo" and the "Blackrock"? You have got the numbers that were on, I suppose?—I am afraid I have not got here the totals that were carried on board. With regard to the City of Dublin boats, I was unable to inspect them, as they had left again by the time I had got my instructions to go down.

930. Then, of course, you had no knowledge of the accident, except, as you say, from the evidence of the officers. Where was it obtained? Was there any inquiry, or how did you get it?—I saw the chief officer.

931. But there was no public inquiry?—No, there was no public inquiry.

932. You got it from the officers connected with the vessels?—There were at the time various letters written to the papers, and the result of my inquiry showed that in the main there was—

933. (*Mr. Field.*) Was there not a question asked in the House about it?—I think so.

934. (*Sir W. Kaye.*) The result of your evidence clearly is, that this serious loss was in consequence of the exceptionally severe weather?—In the case of the "Blackrock" it was the weather, and the accident to the steering gear. Of course, you could carry back the cause of the accident to the weather; also had the chain been strong enough there is no doubt the loss would not have been anything like so great as it was. One of the letters to the papers said that had the head boards been strong enough the loss would not have been so great.

935. Are you aware of the requirements of the Order in Council as to the length and width of the pens?—Yes.

936. You had no fault to find in that respect?—No, they were in accord with the requirements.

937. (*Mr. Watson.*) You speak about ships sailing at the same time. Were those three days equally bad weather?—I do not know when the full force of the gale was, but it certainly covered the period during which these vessels were out at sea.

938. Can you give us the times of arrival of each of them. I think, if you could give it, we might have an actual table of the times to refer to?—I can give you the days on which they arrived, but unfortunately I cannot give you the actual time.

939. You gave us the time of starting of some of them?—I gave you the time of the starting of the "Blackrock."

940. When was that?—She left Dublin on Thursday evening the 16th of November.

941. Can you give us the hour?—6.25 p.m.

942. Did any other of those vessels that you have named leave on that evening?—I have not got the information by me now, but I have no doubt I could ascertain that and put it in my evidence.

943. Will you put in the times of starting and arrival of each ship, and the number of cattle?—Yes.

944. You say that the "Blackrock's" cargo shifted. Do you mean by that, cattle in the lower hold or dry cargo; dead cargo matter instead of live stock?—The cattle in the "Blackrock" were carried on the main and 'tween decks, and a few on the spar deck; but there were no cattle in the lower hold.

945. Then you meant by "cargo" in that case "goods"?—Yes, goods cargo.

946. That shifted?—Yes, so I was told.

947. You say she heeled to a very high angle. You were not, I suppose, given the amount of her list?—I asked what the amount of her list was, and I could not get it accurately; it was only a rough estimate.

948. Her shifting boards, you say, were made fast to circular iron stanchions, 2 inches in diameter, with sockets put on them?—Yes.

949. Were those sockets a part of the stanchions or not?—No. May I hand you this sketch?

950. Yes; I should like to see it?—It is just a rough sketch that I made at the time (*handing in the sketch*).

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951. They appear to be fast?—They cannot carry away very well.

952. They are not actually in one, but they are practically part of the stanchion?—The sockets, I think, are cast all in one part.

953. And they are secured to the stanchion?—Yes.

954. (Mr. Booth.) You speak of what occurred on board the "Blackrock." You asked the officers and they told you. Of course they would tell you to the best of their ability?—Quite so.

955. That information is of course altogether second hand, and you did not go on the boat until after the whole thing was quite over, which was probably the next day after she arrived?—It was on the 22nd.

956. That was five days after she arrived?—Yes. I also had information from the inspectors of the local authority.

957. You gave us your idea of what probably did occur down in the holds after the steering gear had given way, and she fell away in the trough of the sea, and you explained how she would go over with a heavy list. Supposing now these pens had been on a smaller scale, and consequently the shifting boards had been shorter and stronger, one can imagine that when the first lurch took place everything would not go at once?—Quite so.

958. The cattle would not all be driven over at one time?—Possibly not.

959. Something would begin to give way, and then at the next roll something more would give way. Would that not be likely to happen?—Not necessarily, I think.

960. No, not necessarily, but would that not be more probable? What I am really driving at is this. Supposing that the ship had stronger fittings and stronger supports for the cattle, would not the ultimate effect have been avoided, which was, that the whole of the cattle were driven on to one side; was it the starboard or the port side; I do not know?—The port side.

961. So that she got a list from which she never could recover?—My answer to that would be, that had the boards been sufficiently strong to resist this lurch of the cattle the cattle would not have got adrift.

962. Exactly so; they would not have commenced to get adrift?—That is so.

963. So that the effect of the very heavy lurch that she ultimately gave to port, the fact that the greater part of them were crushed in consequence of their all being together on one side, might have been avoided presumably?—Presumably.

964. The extra strength of the pens might have prevented the accident happening even after the steering gear had given way?—Quite so.

965. The giving way of the steering gear is one of those accidents which machinery is liable to at any time, especially in a gale?—Yes.

966. Then on the "Mayo," in the same way you got all the information you could of what occurred, presumably from the Company's officers, and you have told us what you understood occurred?—I went on board the vessel as well.

967. How many shifting boards do you think were broken on board of her; had you any means of judging at all; was more than one pen broken, for example?—I was informed that the boards of one of the pens gave way. The difficulty always is this, that it never occurs to the people on board the vessel to actually count the number or to take special notice of what happens. They are busy and occupied with doing their best at the time, and when the vessel comes into port the object of the owners is naturally to put things straight as soon as they possibly can in order to have the vessel ready for her return journey, and if the inspector arrives after this has been accomplished it is not so easy to form an opinion of the actual extent of the damage.

968. Moreover, was not the information that you got probably obtained from somebody who was on deck, and who did not see anything of it, or was it from one of the cattlemen who was down below, and knew actually what did happen?—It was not from a cattleman, it was from an officer of the ship.

969. Who probably did not see anything of it with his own eyes; probably he had quite enough to do on deck?—I do not know; I should think the probability is that he saw a great deal of it.

970. Still, presumably he was on deck at the time. Could you tell us from whom the information was obtained of the number of cattle that were landed, which walked ashore from the "Blackrock," because your statement differed from what I had read before. You gave us the number that walked ashore, and the number that were killed?—I made inquiry both from the agent of the Company, Mr. Liebfield, and also from the inspectors of the market.

971. Would they necessarily have any accurate information?—Yes.

972. The inspectors of the market or of the abattoir?—The abattoir. I saw the superintendent.

973. Supposing the law had been in the way that Mr. Parker Smith suggests, and that an inquiry had been held, should we not have had all these facts in an accurate and correct state, instead of there being half of them hearsay and half of them derived from we know not whom?—I think you would have had to depend upon the same sources of information that I had.

974. Certainly; but it would have been given as evidence in a proper inquiry with power to get any information?—Do you mean sworn evidence?

975. Would it not have been so? With the last witness some questions arose as to the possibility of holding an inquiry in the case of some exceptional losses, just as you would in the case of the loss of passengers. I merely ask, supposing an inquiry had been held, should we not have had the evidence in a much more accurate form than we have it now?—You might have got it in greater detail, I think.

976. We have no means of knowing whether it is accurate or not?—No.

977. How long have you been in your present position?—I was appointed in 1890.

978. Are you a travelling inspector?—Yes, I am a permanent inspector.

979. (Mr. Cullen.) Referring to the "Blackrock," you say that the chain got off the quadrant?—Yes, that is so.

980. And that that was the cause of her getting into the trough of the sea. Now were there any means of a temporary rudder being fitted up? Are there any steamers that have rings on the outside part of their rudder, so that chains can be fastened to it in the event of an accident?—I think I would rather not give an opinion about that.

981. It is rather a matter of fact?—It is rather outside the scope of my duties.

982. You do not know that?—No.

983. So far as you saw there were no means there on that ship in the event of an accident to the rudder of having chains fastened to the upper portion of the rudder outside in a temporary way?—I do not know whether she had those chains or not. I do not remember noticing the rudder. I have frequently noticed it on ships.

984. But you did not see it in this case?—I did not take note of it. I do not say I did not see it.

985. You say that the cargo in the lower hold shifted, can you give me any idea what sort of cargo it was that shifted, because, so far as my experience goes, it is not the cargo that comes from Dublin that is capable of shifting in the usual way. Was it timber, or was it porter, or was it grain in bulk?—I cannot speak of that. I have no knowledge what the goods cargo consisted of.

986. You only heard that the shifting took place?—Yes, I heard that. I heard it from several different people.

987. Then owing to ships of the character of the "Blackrock" going backwards and forwards, had she any means, do you know, of putting water ballast on board so as to make her steady coming backwards and forwards? You have referred to the Atlantic liners?—I do not know whether she had such means.

988. If she had, would it not be a means for improving the stability of the ship?—Yes, I should say it would be. I think if I might be allowed to say so, that that would be a matter more for the consideration of the Board of Trade inspectors.

989. Yes, but you referred to the Atlantic steamers, and I have just to ask you if that is not the case in some of the Atlantic steamers?—I do not know.

990. Because if there are causes in the Atlantic steamers which render the stability of the ship greater, I do not see any reason why we should not have it in this. You say with regard to the "Mayo" that you got some of the evidence of the officers of the "Mayo," do you know whether they had the ropes of the cattle cut on board the "Mayo" and that the cattle went adrift and smothered others in the hold?—Do you mean were the ropes cut before the animals arrived at the port?

991. Yes?—That I do not know.

992. You do not know that?—No.

993. But they were cut when you saw them?—Cattle were off the vessel when I saw it. I saw some of the ropes too. They were one inch coir.

994. (Mr. Watson.) You did not see her on the day of arrival?—No, I had no possible means of doing so.

995. (Mr. Cullen.) You spoke of a ship called the "Canopus," are you acquainted with the arrival of that ship and the circumstances?—Yes, I can give it you. The "Canopus" arrived in Liverpool on the 21st of November.

996. What day did the "Mayo" arrive?—On Saturday the 18th.

997. But the "Canopus" arrived in the storm on the 21st?—Yes.

998. There were a number of other Atlantic Liners arrived in the same weather, were there not?—Yes, I take it that there were.

999. There was a steamer of Warren's arrived and there was another steamer of Leyland's arrived, each of them with 600 cattle on them, could you tell us the loss that there was on board these steamers?—I should have to get that from the authorities of the Foreign Animals Wharf.

1000. Have you any suggestions to give with regard to ventilation?—There is one point, I think, which might be worthy of consideration, and that is, whether cattle should be carried in the lower hold of the vessel. I mean on the lowest deck of all. So far as I know, I do not think that any very great number are carried there on any one of the boats, and they are only put there when there is an exceptional number of animals to be carried.

1001. That is the only recommendation you would make on that?—Yes. I have no reason to suppose that the ventilation is insufficient on the other decks.

1002. (Mr. Fie'd.) The result of your evidence, I take it, is that these accidents which have occurred with respect to the great loss of cattle are wholly exceptional?—Yes.

1003. Therefore these exceptional occurrences cannot be taken as a sample of the normal state of things?—No, I should say not.

1004. Are you aware whether the Board of Agriculture has any authority to interfere with, or has made any recommendation with respect to, the starting of these cattle carrying vessels when the weather is very bad? No such recommendation has ever been made I suppose?—Not to my knowledge.

1005. With regard to the "Mayo," just one question. You say the trimming boards were 2½ inches by 12 inches and 13½ feet long?—Yes.

1006. Several heavy cattle burst them, and that was, so far as you know, the principal cause of the casualty which occurred on board that vessel?—Seven got adrift.

1007. I do not want to cross-examine you on it, but, in your opinion, if these trimming boards were shorter and the pens contracted in size, would that tend to the safety of the cattle if the pens were smaller?—I think it would, certainly, in a case where the pen was not full of cattle. I think that an animal is almost as likely to suffer from having too much room as it is from being too tightly packed.

1008. I agree with you. Could you give us an idea, briefly, of the relative loss of the "Canopus" as compared with the losses on the Irish boats?—Yes.

1009. That is as regards the numbers?—I can give you the exact numbers. I referred to the accident on the "Canopus" as being a somewhat analogous case to the accident on the "Blackrock."

1010. How many cattle were on board of her?—She left with 240 on board.

1011. How many of her cattle were lost?—161 were lost during the voyage, and three were killed on board at the landing place, the Foreign Animals Wharf.

1012. Just about the same ratio?—In that case there was an accident to the steering gear. The per-centage of loss of cattle in each case was, roughly, a third.

1013. Just in the same way as there was an accident to the "Blackrock"?—The eccentric pulley on the go-a-head high pressure valve split on the "Canopus."

1014. Just in the same way?—While the repairs were being made the vessel was helpless in the trough go-of the sea.

1015. There the circumstances were almost similar to those of the "Blackrock" in regard to the steering gear?—Yes, I should say in each case loss was primarily due to an accident to the steering gear.

1016. Therefore, these exceptional accidents cannot be taken, as I said before, to be a guide to the ordinary traffic?—I should say not.

1017. Have you any suggestion to make as to the advisability of adopting a similar system of small pens for the Irish cattle boats? You told us that the pens were smaller on board the Atlantic liners?—The number of beasts to be carried in one pen is limited on Atlantic vessels to four, or, in some cases, five.

1018. Do you think it would be advisable to adopt that system for our shorter distance traffic; have you any opinion to offer on it? I do not want to force an opinion from you?—I think if some plan could be devised in which if you have only three beasts to put inside a pen, which, as I say, may be 9 feet by 15 feet, and you have a means of moving up the side board and making the pen smaller, it would be a distinct advantage.

1019. That is not exactly the point I want to get at. Do you think it would be better to have a smaller pen to carry four or five cattle, as they have in the American liners, or to have a pen which would carry double the number, as is generally the rule in the Irish carrying boats?—I cannot say further than this, that I think it is an experiment that might well be tried, and I do not think it is one that would entail a great amount of expense to carry out.

1020. Is it usual on the American cattle boats to have what they call trimming pens; that is to say, if a beast gets what we technically call "down," a place where they can remove that beast to—a kind of hospital pen?—As far as my knowledge goes, I think they generally remove those beasts into the square of the hatch in order that they may get as much air as possible.

1021. Have you a sufficient knowledge of the Irish traffic to know that there is no such provision on board the Irish cattle boats?—No, I cannot say that I have.

1022. Has the Board of Agriculture any jurisdiction, or does it exercise any supervision or control over the cross-channel transit between England and Ireland? I would like a particular answer to this question, because this really, to my mind, is the kernel of the whole inquiry. Are you aware whether the Board of Agriculture has any jurisdiction or exercises any supervision or control over the cross-channel transit?—I do not know how far the cross-channel jurisdiction would exist. Inspectors have been across with cattle, but not lately.

1023. Can you tell this Committee whether the Board of Agriculture is in the habit of sending inspectors across on that short sea voyage in order to see how the live stock are treated?—No, they have not of late, not since I have been appointed, that I am aware of.

1024. Can you tell me then who is responsible for the carrying out of these regulations of 1863 in respect of the live stock transit between Ireland and Great Britain, or are you not able to tell me who has charge of that responsibility?—I should say the owners of the vessels. If the Board of Agriculture had reason to suppose that the requirements of their Orders had not been carried out, and they had evidence to that effect, they would take steps to deal with it.

1025. But what steps do the Board of Agriculture take to see that their Orders are carried out? That is exactly the point I want to get at. Who is responsible for the carrying out of these regulations?—The Board of Agriculture.

1026. Am I to understand then that the Board of Agriculture leaves it to the shipowners to carry out the regulations themselves according to their ideas of how it is to be done?—If loss occurs an inquiry, if possible is made.

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Mr. F. A. Fulford. 1027. Yes, but is it your experience that inquiries have ever been made on the normal condition of the traffic?—Yes. An inspector frequently when stationed in Liverpool and other ports goes down to the wharf to see the boats come in.

1028. Could you give me an instance where an inquiry was made, I do not mean a report by the inspector, but a formal inquiry?—No, I do not know of a formal inquiry.

1029. Then I may take it that your evidence is that the Board of Agriculture, although it has charge of this responsibility, does not as a matter of fact take any means to carry it out, but that it is left in the hands of the shipowners and there is no inquiry held?—No, I do not say that. I say there is no formal inquiry, with witnesses called up or anything of that sort, so far as I know.

1030. Would you suggest that an overseer might be appointed to accompany those live stock vessels on their journey between Ireland and England?—By the Board of Agriculture?

1031. Yes; or have you no information on that point?—I have none.

1032. It might be dangerous for you to give an opinion, probably?—No. I see no objection to an inspector going across in the boats.

1033. Do you think it would be a good thing occasionally?—Yes, I think it might. As I said just now, inspectors have been across.

1034. Well, I hope we will get that point. You have no further suggestion to make on that?—No.

1035. (Mr. P. Smith.) With regard to the "Mayo," was there an accident to her engines or to the ship on that passage?—I see, on looking at my report, that the accident was primarily due to those seven heavy beasts getting adrift, and to the very heavy weather.

1036. There was no harm to the ship except the breaking of those head boards?—No.

1037. Are you able to speak at all to the ventilation on these various heavy passages—whether the beasts suffered much from want of fresh air?—I should say they were less likely to suffer from want of fresh air in that heavy gale than they would be on a hot still day.

1038. Would the hatches all be battened down on the voyage?—There were no hatches put down above any of the cattle.

1039. So there were none on the lower decks close to where they would suffer?—No.

1040. The ventilation question would not arise, therefore?—No, the ventilation question did not arise. I did make inquiries as to what the ventilation was in the lower hold on the "Blackrock," but I found there were no cattle carried down there. The hatches were put down on that hatchway.

1041. Are you able at all to speak to the question of ventilation on these cattle boats; did the beasts suffer from that; is that a matter that you have any knowledge of?—I have no reason to suppose that the ventilation is insufficient. You see, the cattle are carried on each side of the engine-room, in the alleyways, both ends are open, and where you can get a good draught as long as the vessel is moving, I take it there would be sufficient ventilation.

1042. Were none of these animals carried on the lower deck?—They were carried on the 'tween deck

and the main deck; the hatches on the main deck were not down; the hatchways were open from the main to the 'tween deck.

1043. And you think that in heavy weather the hatchways would give plenty of ventilation to the lower deck?—Yes, together with the ordinary ventilator. It is, I believe, most exceptional, if ever, that those hatches have to be battened down on the Irish boats. I am speaking from hearsay.

1044. Then you told us that these head boards that gave way were about 13 feet long; supposing that the pens had been smaller—that the pens had been about, say 9 feet long, and the same scantling, then do you think they would have stood the lurches and the weights that they had to stand with the beasts?—I cannot say that they would have withstood the lurching on this occasion, but I can say that they would have been proportionately stronger than the longer board.

1045. (Mr. Watson.) Am I to understand that no hatches whatever were shut down over the cattle in any of those boats on those occasions?—That is so.

1046. (Mr. Booth.) Here again the knowledge is only so far as you could ascertain it, as to whether the hatches were put down or not?—Yes, as far as I could ascertain.

1047. Then you speak of the ventilation being sufficient, as a rule, in your opinion, on the 'tween decks. You mentioned that a great many of the cattle on board the "Blackrock" were drowned. How do you suppose water got down into that 'tween deck?—By the main hatch. That would be evidence that the hatches were not down.

1048. Exactly; but is not that also evidence that at certain times the hatches must be put down to save both the cargo and the ship?—They were down on the hatchway leading into the lower hold, but there were no cattle in the lower hold.

1049. I am talking about the main deck; it was the 'tween deck in which the cattle were drowned in the "Blackrock"—that is what you said?—Yes.

1050. You speak of the ventilation being sufficient with the hatches; is there not sufficient evidence that the hatches must at times be put down?—I think not, because the evidence was that this weather was quite exceptional, heavier than they had experienced for years, and as they had not put the hatches or felt the necessity of putting the hatches down during that, *a fortiori* they would not during ordinary weather.

1051. As far as the "Blackrock" is concerned, is she not a ship that has only been running about one year or two years?—She is a new vessel, and had been running about 12 months, during which period and previous to this voyage she had only lost about four cows; she had been lately overhauled at Barrow, where she was built, I understand, and again by the Board of Trade officials in Ireland, who were satisfied with the fittings.

1052. You spoke about the experience of other boats on past occasions, the weather having been occasionally rough would you consider that the experience of a paddle boat, which is always steadier, such as the City of Dublin Company's ships, would be a fair thing to compare with the requirements of a screw steamer like the "Blackrock"?—I mean supposing it is the case that a paddle boat's hatches can practically always be left open, does it follow that with a screw steamer, which is much more liable to roll heavily in a heavy sea, the hatches can also always be left open?—I do not know.

The witness withdrew.

Mr. D. Davies.

Mr. DAVID DAVIES called and examined.

1053. (Chairman.) You are the ex-president, I understand, of the Liverpool Butchers' Association?—Yes.

1054. I am informed that you are authorized to give evidence on behalf of that association, and also on behalf of a similar association in Salford?—Yes.

1055. I believe your object in giving evidence is to speak to the alleged cruelties inflicted upon animals in transit, and to explain to the committee the injury and damage that they suffer?—That is so.

1056. Will you please tell us, in the first place, whether you can give us any statistics as to the number of cattle imported by your association?—I have not prepared myself with statistics as to the number imported each year, but I think they are very easy to be

obtained. We have gone into the matter several times as to the average damage done to cattle in transit.

1057. By "we" you mean the association?—Yes; also the National Federation of Butchers. We have taken this question up time after time. Our association has worked at it for something like 10 years. I believe it is over 10 years now since we first memorialised the Privy Council. I know that Lord Spencer was Lord President of the Privy Council at the time.

1058. Has your association passed any resolutions on the subject?—Several resolutions at different times.

1059. Do you happen to have any of them with you?—I have not brought any with me, because it is years

gone by. We have been working at it for the last 10 years, as I said before, if it is not 12 years since we commenced. We have heartily agreed to support the report of the Liverpool Branch of the Society for the Prevention of Cruelty to Animals, which, I believe, is before the Committee. I am very anxious to explain to the Committee the amount of damage done to cattle which cannot be perceived—which really cannot be detected until after the animal is killed.

1060. That is exactly the sort of evidence we would like to have—technical, practical evidence?—A beast will walk from the boat right enough, and will be shown in the market, and even a butcher who is really very experienced in the matter will not be able to find out that the beast is damaged. Perhaps the first thing that will arouse his suspicion is that he or she—a bullock or a heifer—will not stand handling, but will kick. Then that at once will arouse suspicion whether that beast is suffering, and on careful handling we might be able to find out a certain amount of damage, either a hip knocked off or the sides crushed. But as a rule what can be found out is really very little as compared with the whole amount of damage. It is very well known that when a beast is injured, that causes suffering and pain; and although that injury might be located to one particular spot—a crush in the ribs, say—that is a very common thing, that causes pain, and it affects the whole fibre of the meat, of the flesh. It makes it dry, and very often turns the colour of it black, and so reduces the amount of nourishment that that meat would carry otherwise if it had not been injured. It makes it dry, hard, and of less nourishment. It takes the nourishment away, so that really the consumer suffers.

1061. (*Mr. Field*) It is less saleable, too?—It is less saleable, and the consumer suffers in the lessened amount of nourishment the flesh would give.

1062. (*Chairman*) You mentioned cases of crushed ribs as being very frequent. Can you give any idea to the Committee as to the proportion in which you find such cases occurring?—I was in Dublin about 12 months ago myself, with a friend, and we went to see some cattle being loaded. The gangway at the time was at a gradient, I should think, of something pretty near 45 degrees; it was almost perpendicular; it was something terrible. These bullocks had to be forced down the gangway with sticks, and so on; and when they got to the bottom we noticed there was an arm of the gangway projecting. Of course, the vessel being so very narrow there was hardly room for the bullock to turn round at the bottom of the gangway, and so each bullock that came down caught the end of this gangway a regular thump in the rib; and every bullock that caught the end of the gangway in that way would have his ribs crushed; there would be a large quantity of congealed blood and jelly and of damaged stuff, and the meat would be damaged in that particular part.

1063. Did you happen to trace that consignment to Liverpool?—That particular consignment I could not trace. They were going to Leicester, but we could see that all consignments were subject to the same kind of treatment, and it was an explanation of how the beasts are so often damaged in their flat ribs.

1064. But you could not give us any estimate of the number of beasts in which you find a serious damage to the meat?—As to the serious injury, in my own experience, if you take from the middle of September up to Christmas, there is at least one-third of the cattle seriously damaged. I have had them myself with the damage to the beef amounting to as much as from 2*l.* to 2*l.* 10*s.* per head.

1065. Then what would you say would be the average loss through damage done to the beef?—We put the average value of the damage at 10*s.* per head.

1066. Of all?—Of all the imported cattle from Ireland to Great Britain, 10*s.* per head.

1067. Is that the estimate which is agreed to generally by the Butchers' Association?—Yes, generally by the Butchers' Associations all through the kingdom.

1068. You say that there is sometimes an enormous amount of injury?—I have seen it myself. I do not know how many of the gentlemen present are conversant with the way a beast is killed. First, it is knocked down with a poleaxe and turned on its back, then the hide is flayed from the legs and from the underneath part, the briskets, the flanks, and so on. When that is done, the beast is hoisted up so as to get the hide off his back.

have seen in the abattoir where, when the bullocks were hoisted up as soon as the hide was loosened from the tail, cut off there, the hide simply flopped down on to the floor, there not being sufficient left intact to hold the hide on the beast's back. That is about the worst case that ever I saw. I am giving that as a particular instance. These beasts were landed on a Friday, I believe—I will not be too certain when they were landed, but they were landed at the back end of the week—they were sold in the Liverpool Cattle market on the Monday and taken to the abattoir and actually dressed on the Monday night, and then the hide of the beast flopped down on to the floor.

1069. I suppose you attribute that to the injury the tissue received by beating?—Not so much that. I attribute it to this: When the cattle were in the hold some of them would be very tired and would probably lie down immediately the vessel began to pitch; of course, if the beasts were lying down there and the vessel began to pitch and they are tied athwartship they would stop there and get the others on to their backs. They would all get the same thing done in their turn. Very often a beast would be thrown over the one that was tied next to it; if that which was tied next to it happened to be lying down the other beast would be thrown completely over it and they would come across one another. That is the way in which we consider the trampling on the beast's back is done.

1070. I suppose a good deal of the meat—all the meat—in the proximity of that injury would be suffused with blood and of no use?—Hardly any use at all—no good.

1071. Have you experience of other cases, or has your association commissioned you to give any other instances?—Yes, our association have. Of course we come in contact one with another and we talk these matters over and we tell one another our own experience as to how cattle are injured.

1072. You have only spoken about cattle; what about sheep and swine?—The sheep fare the best of any; the pigs suffer enormously at times. The sheep as a rule are loaded on deck, and being much lighter they do not suffer so much.

1073. Then as to swine?—They suffer a great deal.

1074. In what way?—They are not properly looked after. In the first instance they are loaded too tight. I think whatever the limit number is, it is far too great. I was down one Sunday morning not long ago and saw some swine taken off a ship; they were really in a very exhausted state and had to be carted up.

1075. Now as to the injuries to the cattle. We have heard a good deal about the injuries inflicted by cattle on each other with their horns, and suggestions have been made as to dishorning. Do you in the course of your business find many injuries to the cattle referable to their goring one another?—We do some, but certainly not anything like in proportion to the injury done in the transit.

1076. That is an injury that may be done in the transit, is it not?—Sometimes it is done; we have known instances where beasts have broken loose in the vessels—and they are not always tied in—and gored one another fearfully in the vessels.

1077. Then what sort of injuries do you find cause to complain of most—injuries resulting from the use of the stick, injuries resulting from cattle trampling on one another, or injuries resulting from the goring?—Trampling on one another does the greatest damage. The injury from sticks, of course, is very galling to the eye; it spoils the appearance of the meat, but it is not very deep. It is very annoying for a butcher to have a beast with stick marks on the back, but still, that injury does not certainly go just beyond the bits of fat that are under the skin.

1078. What do you consider a bad case of depreciation in value by the use of a stick?—It is very hard to tell, because it is more of an eyesore than it is a real harm in the case of the stick. A carcase butcher if he had half-a-dozen beasts injured with the stick probably would have to take a farthing a pound less for them.

1079. That would run on an average to how much a beast?—15*s.*

1080. That would cover a bad injury?—A bad injury with the stick.

1081. Now, as to goring, is that very serious from a trade point of view?—At times it is, but where the cattle are gored generally is in the flat ribs and the

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shoulders. Those, of course, are the parts of the beast that are less valuable; but it causes suffering, and it is the suffering really that does the injury to the beast. As I said before, when an animal suffers from pain the whole carcass deteriorates in value, although some parts may not be touched with the stick or anything else, but the actual suffering of the beast dries up the sap, and deteriorates the quality of the meat.

1082. We were told that it was a rule not to give animals food for 24 hours before they were killed. Is that so?—That is so.

1083. What is supposed to be the reason for it?—A beast will stand for 24 hours if he gets a drink of water. It allows the meat to cool down, as it were, before it is killed. We are more careful over that in very hot weather; in cold weather we do not mind so much, it is not necessary then, but in very hot weather the beef will keep better if the animal is kept without food for 24 hours.

1084. Do you give it water?—Yes, we always give it water.

1085. (Mr. Field.) Plenty of water?—Plenty of water. The more water they drink the better they are for killing.

1086. (Chairman.) You have a strong opinion, I understand, as to certain remedies for the present state of things—I see you have got a note in your proof about the absolute necessity for fixing the responsibility for the safe transit and delivery of cattle upon the steamship owners?—Yes.

1087. Is that your own private view?—That is my own very strong private opinion, and I have come to that opinion after crossing a few times on board of steamers that carry cattle.

1088. You say it is your own private opinion. I want to know whether it is an opinion expressed also on behalf of your association?—Decidedly, yes; we have passed a resolution to that effect.

1089. Now, if you please, give the reasons in support of it?—The reasons are easy to be found. I know that some men send the cattle over without a bullock man, or even the pretence of a bullock man, in charge. Other men do have a bullock man in charge. There are, perhaps, one or two on board of a steamer. The last time I crossed there were about 300 beasts, and there were two men to take charge of them. I know that some of the beasts got down, although it was a very fine night—a beautiful fine night, beautiful and calm. You must remember that cattle drovers are not selected out of the best class of human beings. We cannot get them, to begin with; we cannot expect that—the very calling itself would not command it. Those men are not under the control of anybody on board; they can go away and play cards, or drink, or go to sleep. The rougher the weather is the more necessity is there for somebody to attend to the animals. Two men are of no earthly use on board of a steamer with 300 cattle in a rough passage—no use whatever. They cannot do the work. Besides there is the way in which the cattle in nearly all the steamers I have noticed are tied; they are tied with their heads against the bulwarks.

1090. Will you just confine yourself to this point—which is a very important point—of the responsibility of the shipowner for safe transit in the delivery of cattle; of course, these other points are very important also, and we should be glad to hear what you have got to say about the men in charge, and about the fixing-up of cattle, and so on; but would you, please, in the meantime, confine yourself to this point?—If the responsibility was on the owners, I take it that the officers of the vessel would see that these men did their duty, whereas they are not under the control of the captain, or of the mate, or of anyone else.

1091. You would have these drovers members of the staff of the steamer?—Yes.

1092. That is what your association desire?—That is what we strongly desire; in fact, that is a cardinal point in our demands.

1093. Do you buy cattle in Ireland?—I buy cattle in the Liverpool Cattle Market. I do not bring cattle across.

1094. Do any of your association buy cattle in Ireland?—Yes, there are some members of the association who buy there.

1095. They would have to pay freight, would they not?—Yes.

1096. It has been stated to us that freight is charged upon two principles, either barring all risks or including all risks?—I may say this, that if a beast walks ashore it is considered a safe transit. Now, we do not acknowledge anything of the kind. A beast may be able to walk ashore and not be worth within 3d. a lb. of its normal value. I have already referred to a case where seven bullocks were killed in the abattoir, and their hides fairly dropped off their backs, yet they walked ashore, and walked to the cattle market, and were sold there.

1097. Do you happen to know whether, if the shipper has paid a freight upon which the shipping company undertakes the risk, damage done such as you describe would be covered by that undertaking?—Not if the beast walked ashore. If the beast dies on board the ship, if it is trampled so bad that it cannot live, then they pay for it.

1098. My desire was to bring out distinctly your view upon that point, so that it might be cross-examined by the different members of the Committee. Now we will proceed to your suggestions as to structure and other points. You propose that a steamer of larger beam should be used?—Yes, so as to get a greater breadth.

1099. Whom do you propose to make the judge of that?—The Board of Trade, I should think.

1100. The Board of Trade?—Decidedly.

1101. Then you suggest that the powers vested in the Board of Trade at present are insufficient?—They are insufficient, undoubtedly.

1102. Then you propose that the size of the pens should be reduced?—Yes.

1103. And that only a few animals should be carried in each pen—not more than four in any case?—That is so, just according to the position on the vessel. In some parts just amidships four would stand almost as well as two in other parts. That would be aft or forward.

1104. Then I believe you propose that there should be a space in front of the cattle, so that the attendants could get down and prevent those who are lying down being trampled on?—Yes; the rule now, so far as I have experienced, is that beasts that are tied up along the side of the ship are tied against the bulwarks. If they were tied the other way about they would not feel the rolling of the vessel nearly so much, and there would be space in front of the beasts so as to enable the attendants to look after them.

1105. Would you state the reasons on which you make the suggestion about steamers having a broader beam?—We will take the gangway to go down to the lower hold which has to be very steep. When the vessel is too narrow to allow of sufficient room for the bullock to turn round at the top of the gangway, and to turn round at the bottom of the gangway, the gangway is necessarily too steep, and the beasts will not go down willingly, and they have to be beaten, they have to be pushed down; and even when it is necessary for them to walk out again, it is a very heavy work, and they find it quite as much as they are able to do.

1106. In connexion with this beating, have you any instructions from your association as to the suggestion made for the use of the goad instead of the stick?—As an association, we are in favour of the goad. We think less damage would be done to the cattle if the goad were used.

1107. Have you anything to say as to the allegations regarding injuries to Irish stock occurring before they arrive at the port of embarkation in Ireland?—I have not experience of that, but I have been informed by dealers that the accommodation for loading on several of the railways is really very bad. In some instances there are no pens whatever; they simply have to drive them into the truck from perhaps a little rising in the ground; and if the cattle get wild—and I know what they are very well—it would be very hard work to get them in.

1108. My point was this. I wish to ask you whether you had in Liverpool, and among the members of your association, complaints as to the difficulty in fixing the responsibility for damage in consequence of its being shifted beyond the steamship owner?—We have had a difficulty.

1109. The only other point you mention here in your proof is that you have a very strong opinion as to the Liverpool landing-stage?—It is very bad; it is shocking. There is no proper place to land the cattle; they are brought out on the landing-stage, and brought out on to the wall there. There are no pens into which they can be put to be drawn, and there they have to stand. Coming out of the lower hold of the vessel, sometimes very near the boilers, causing great heat, where the cattle would get very heated and sweated, then they are brought out to stand in perhaps a bleak storm on the dock wall. There ought to be a shed where they could be taken to, and there ought to be a lower part as well for landing. It is rather difficult and rather steep for them to walk out as it is. Again, in the Clarence Dock they are simply driven out where the carts and the vans and everything else are passing, and where they are liable to be knocked against. In fact, there is no provision for them whatever.

1110. (*Major Tennant.*) I understand you to say that the chief evil that occurs on board a ship is due to the trampling of the cattle over each other?—That is so.

1111. That is the worst evil?—That is the worst evil, when they are very badly injured.

1112. The damage done by the stick is more a matter of blemish than a loss of money, do you think?—It is a loss of money, certainly, if the man has got to sell his beef at a farthing per pound less and the beast weighs 36 score it means 15s.; it is a loss of money, there is no doubt about that.

1113. I understand you to say that the two together would represent a loss of 15s.?—We put the average loss on the whole of the cattle at 10s.

1114. 10s.?—Yes, per head on the whole of the beasts landed in England from Ireland.

1115. Now you are speaking of fat cattle alone, not the stores, are you not?—We are speaking of fat cattle.

1116. Not the stores?—We cannot get at the loss on the stores. We do know this much, that a farmer will never buy Irish stores; he has got to wait a fortnight or three weeks before they begin to grow.

1117. You do not profess to give any evidence about stores?—I do not.

1118. Simply about fat cattle?—Yes.

1119. You do not buy in Ireland, I understand?—I do not.

1120. You buy in Liverpool?—Yes.

1121. Would you be prepared to pay 10s. additional for each beast that you now buy in the Liverpool market, if you could have some guarantee that these injuries would not occur?—Certainly we should.

1122. Do you think that the exporter from Ireland would be prepared to pay the shipping companies another 10s. a head?—I cannot speak for him.

1123. Can you say whether he would or not?—No.

1124. Do you think he would?—I do not know.

1125. You propose to put the responsibility on the shipowner, do you not?—Yes.

1126. It is quite clear, is it not, that if they are to have greater responsibility they must have a higher payment?—Quite so, and we agree to that.

1127. Then, in effect, you are of opinion that the exporters would be willing to pay more?—We are of that opinion that they would get more for their cattle.

1128. Now, how do you propose to enforce this responsibility on the part of the shipowner. Can you always tell when you buy a beast in Stanley market whether it has been injured or not during the voyage? Do you not have to await the slaughter before you can estimate the amount of damage that has been done to that carcase?—It is very difficult to estimate the amount of damage done before they are slaughtered, but with very careful inspection we would be able to trace a beast that was injured.

1129. How would you impose the responsibility on the shipping company?—We believe this, that if there were better steamers, and the responsibility thrown on the shipping company, there would be no injured cattle.

1130. That is what I want to get at. I want to understand how you are going to enforce that responsibility. You tell me that you cannot tell accurately what amount of damage has been done to the animal until you see the carcase after slaughter?—I do not know

that I should be called upon to say what means should be adopted to enforce their responsibility, but there will be no difficulty about it, because if there was any dispute about whether a beast was damaged or not he could be slaughtered and tested, and that would be a test case by which others would be guided or decided; there would be no difficulty about it.

1131. It would not be a question of principle, it would be a matter of fact in each individual case; would that not be so?—Yes.

1132. It would be a matter of hard fact in each individual case as to whether injury had been caused or not, and if you cannot tell what the amount of injury is until you have killed the animal, how are you to recover from the shipping company? How do you propose to recover?—We take it in this way, that if there are better steamers for carrying the cattle, and if the responsibility is thrown on to the steamship owner, there would be no injured cattle, and therefore it would not be necessary to fix the responsibility on anybody; there would be no responsibility, the duties would be properly discharged, and the cattle would be landed free from injuries, the same as the American cattle are.

1133. Now, as I understand, to go to another point, you propose that the cattlemen should be provided by the shipowner?—Yes.

1134. And not by the owner of the cattle?—Yes.

1135. Then would you propose that the owner of the cattle should not be allowed to send any person in charge of his cattle if he wishes it?—Really, that is a matter of detail. I do not see the necessity of the owner of the cattle sending anybody with them if the responsibility of transit was on the steamship owner.

1136. As to another point, you suggest that the ships should be of a larger build. Now from certain ports in Ireland, as I daresay you know, the traffic is not very large. I mean not only for cattle but for other purposes, and there would not be goods or cattle sufficient to keep a large vessel running; in a case of that sort, would you prohibit the carriage of cattle altogether in a ship of small beam, in such a ship as it would be worth running?—I should certainly prohibit the carrying of cattle.

1137. You would prohibit it?—Yes, altogether.

1138. And stop the traffic in cattle altogether?—Let them send by rail to another port where they would get more traffic, and where they could take larger vessels.

1139. You mentioned, I think, that you would like to see smaller pens in the vessels which would accommodate two, three, or four cattle?—I would like to see a stanchion between every beast on those small steamers; that is what I would like to see, but if they are reduced to two, three, or four, I think they might be pretty safe.

1140. Are you referring to store cattle as well as to fat cattle?—I am referring to fat cattle, and I think every beast over two years old ought to be tied.

1141. You say over two years old, but who is to decide on the spot? We will assume it is a dark winter's night, and that a number of cattle are being loaded on the quay, and they are brought down just before they are loaded, who is to decide as to the age of the cattle, and how many are to be carried in a pen?—Anything beyond calves ought to be tied up—anything older than calves ought to be tied up.

1142. I daresay you know enough of the trade to know that animals of all ages are sent from Ireland; they may be of any age, from a few months up to cows of considerable age?—Yes.

1143. Now, who is to decide on the spot, supposing a dark night, and a lot of mixed herds coming down to the quay side to the ship, who is to decide what are calves and what are not calves?—I should certainly think that the man in charge of the yards ought to know that.

1144. What man?—The company's man.

1145. The company's man?—Decidedly.

1146. Then you would leave it to them to do what they liked?—Yes, and if they did wrong I would have them up for it.

1147. But who would have them up?—The owner of the cattle; if the owner of the cattle finds that these cattle are placed as they ought not to be placed. There is where I want the responsibility.

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1148. I see; you would leave it all to the owner?—I would leave it to the owner of the steamer to load the cattle the same as the owner of any other steamer has to put the cargo right in his ship.

1149. As to the use of the goad, you advocate it, do you not?—Yes, we do, in preference to the stick. My reason for that is this, that drovers who are used to drive with the goad only touch the beast in their buttocks or so, where the hide is comparatively thick, and the beasts do not suffer anything from it. A man with a stick goes on to his back, and very often about his head.

1150. Would you propose to encourage the use of the goad without any supervision?—The length of the goad, of course, should be fixed upon.

1151. Would you allow a goad of any size and of any sharpness to be used?—No.

1152. How would you propose to prevent an unduly long goad or an unduly sharp goad from being used?—I think our officers are fairly able to look after that. I would have every drover licensed.

1153. Licensed by whom?—By the Local Authority. In Liverpool they would be licensed by the Hackney Carriage Committee; I do not know by whom they would be licensed in Dublin.

1154. (Mr. P. Smith.) Your evidence has been that of the trade union of Liverpool, I suppose?—It has, and I may say of Lancaster, because we have met so often together.

1155. Do you represent here the unanimous trade opinion?—I have a letter from a friend at Bolton, whom I expected to be here to-day, and it says, "We know your opinion so well that we are perfectly satisfied."

1156. (Mr. Field.) Is that Mr. Wharton?—Mr. Wharton, of Bolton. "We know your opinion so well that we think the matter would be safe if you state what you know and understand about the matter."

1157. (Mr. P. Smith.) Do you think one could find a gentleman of equal standing with yourself who would give opposite evidence?—I do not think you would find any one who would give opposite evidence—not from amongst people who handle cattle.

1158. Are you acquainted with American and Canadian beasts as they arrive?—I do not deal in the American and Canadian beasts, but I have seen them landing often, and I have killed them.

1159. Do you find the same injuries on them at all?—Oh dear no; the rule is, with the American beasts, that they are free from injury. If you find a beast that is injured it is an exception; it is quite the opposite with the Irish, the rule there is that they are injured, and that if you find them free it is an exception.

1160. Is your business mainly with the Irish beasts?—Irish and Scotch.

1161. How do you buy them, do you feel them, or do you buy by the look—what is your test?—They are shown in the pens in the cattle market and we handle them; we gauge the value as near as we can.

1162. For example, in Glasgow I have seen Canadian beasts sold; they are simply passed through a circle—through a ring—and men buy them by the eye, not touching them at all—by auction?—They are not sold by auction in Liverpool. In Glasgow, I believe, they run them over a weighing machine.

1163. But it is simply by the eye, I think, that the men buy them?—They go and examine them before. These cattle are marked. There are certain lots, and buyers will go and inspect them before they come into the ring, and they mark the cattle to see what they will give for them.

1164. (Mr. Field.) And they are generally weighed, too?—They are generally weighed. I have never bought in Glasgow, but I have bought in Edinburgh, and that is the system there. They are passed over a machine, they come into the ring, we handle them beforehand, and we have the advantage of seeing the exact live weight, and we bid according to our own opinion.

1165. (Mr. P. Smith.) Is that in Edinburgh?—That is in Edinburgh.

1166. Then am I not right in supposing that in Glasgow they are bought without previous handling, simply by the eye?—I do not think so; I should hardly

think they would. The usual way is to handle them previously. A man would never trust himself to buy cattle by merely looking at them, because he would want to know how they handled.

1167. You say the average loss is 10s. per head?—That is an average loss that we have agreed upon as butchers, for, I should think, the last three, four, or five years since this matter has been so much agitated amongst us.

1168. You mean, I suppose, that by the looks, if the beast was a Canadian beast, you would see that he was worth 10s. more than an Irish beast?—The way we put it is this: that if a man buys 20 beasts, and does that every week, he will find that they are suffering to the extent of 10l. a week from bruises—that is the way we get at it.

1169. So that the price he gives for those 20 beasts is naturally 10l. less?—Certainly.

1170. Than it would be if they were Canadian beasts?—Decidedly so.

1171. Then you speak of putting the responsibility for the injuries when you find the beasts are injured on the steamboat companies?—Yes.

1172. How are you going to know where the beasts are injured?—We take it that the steamboat owners at Dublin or Drogheda would not take an injured beast on board; that they would reject it.

1173. You have told us of the railways in Ireland, and of the rough treatment beasts have in getting on board. I have heard of that. I perhaps misunderstood the question.

1174. We have also heard from other witnesses of the rough treatment the beasts get in going to the fairs before they go on to the railway; how are you going to know whether the damage to the beast when the cattle arrived in Liverpool was done on board the steamer, or on the railway, or in the fair?—We can tell pretty near by the nature of the damages. For instance, we never get a beast trampled on in a fair, or when being driven. When a beast is trampled on we know that it is done on board ship.

1175. Then you think that would not be a real difficulty?—No.

1176. You think you can bring it home clearly to the steamboat owner?—We can. There are a few minor damages done which it would be very difficult to find out where they were done; for instance, stick damages, we could not tell where the stick damages were done, but we could say what we have seen. Whenever I have seen cattle being loaded in Ireland they have had to go down this very steep gangway to the boat in the first instance, and the sticks are used most unreservedly. Then when they get down on the first deck, they have got to turn round to get to the lower hold, and in the very narrow boats the gangway is again very steep, and the beasts will not go down without a great deal of forcing.

1177. Then you think in the case of the most serious injuries, such as the crushed ribs, from the trampling which you were describing, there would be no question as to where they occurred?—No doubt whatever; no difficulty whatever in tracing them.

1178. And it would be only the minor damages, like the stick damages, which it would be difficult to say where they happened?—Yes, we could not say where those happened.

1179. Then about the goads, do you use goads in Liverpool?—We do not. There are a few drovers who come to Liverpool who use goads. I know that the Society for the Prevention of Cruelty to Animals used to find fault with them, but a few London drovers came there who used goads which are used in London, and we proved really that they answered better. I should be very glad if we could convince our friends, who are, I am very glad to say, helping us very much in this matter now, that the goads are less injurious than the ordinary stick.

1180. Are you accustomed to killing beasts on which goads have been used?—I have killed beasts on which goads have been used.

1181. Did you find marks of the goads on the beasts?—No, none; I have never heard of the hides being damaged even. They use goads in Edinburgh.

1182. What is the process of business; whom do the beasts mainly belong to when they are crossing; do

you buy in Ireland?—No. There are dealers who buy in Dublin and other markets in Ireland, and bring them over on their own account, but the bulk of the cattle are consigned by graziers to salesmen in Liverpool, to sell on account of the senders. I believe that is, you may say, three-fourths of the trade.

1183. So that they are consigned in small lots?—Yes, in small lots.

1184. (*Mr. Field.*) Not necessarily?—Just according to the size of the farm. If a man has got 300 or 400 cattle to work out within a certain time he will send 30, 40, 50, 60, or 70, as the case may be; but if a man has only a small farm, he will send five, six, or seven every week. That is the usual custom. A man with 70 or 80 beasts will not send all off in one week. He will take those that are ready, a consignment of five, six, or seven, and send them on and keep the thing going. He will send the beasts when they are ready.

1185. When a man is making a large consignment, does he send a drover with the beasts?—Not necessarily so. Some do and some do not.

1186. Are most of the consignments too small to warrant the expense of sending a drover?—That is so.

1187. And the beasts that are brought over by dealers from Ireland are a small minority of the whole number, I understand?—I should say about one-third of the whole.

1188. About one-third?—I should think so. Of course I am speaking off the book now.

1189. Do the dealers have drovers of their own?—I may say this, that they very often cross with the cattle themselves, and naturally enough they select the best part of the vessel to put their cattle in that they can, and you know if a shilling or two will do any good, he is there to do it. I know that to be a fact; it is no secret.

1190. Then you find the dealers' cattle come better?—Generally less bruised. We have often bought cattle off the dealers when we would prefer buying off the salesmen, because we could rely on their not being badly bruised.

1191. So you think a little more care in the boats would be better?—In those small vessels you cannot get every part to be as good as others. There are some portions on the upper deck, which is about amidships, where the cattle are not subject to the same amount of inconvenience. If the vessel is pitching, the motion of the boat is less there than it is anywhere else, or if she is rolling, it is less. So they select the part where the cattle are less open to injury, whereas the salesman, on the other hand, gets his cattle consigned from West Meath or Kildare or some far-off place; they are put on the train, and they are sent on in charge of the company, and nobody takes care of them.

1192. Then you have not persuaded your grazier in West Meath that his beasts would be worth 10s. more if they took proper care of the cattle?—We have done something. We have done our best anyhow, but they are very hard to convince. They say, "Well, those are the only boats we have to bring them in; we would be very glad to have better ones."

1193. (*Mr. Field.*) I understand that you have been in complete touch and sympathy with all the men in your own shire, in Lancashire?—I have several times.

1194. As a matter of fact, you practically represent Manchester?—I do.

1195. And Salford, which is probably the largest centre of consumption with regard to Irish cattle; much larger than Liverpool?—Much larger.

1196. And Wakefield?—Yes, Wakefield.

1197. We are to take it that what you say here is a correct representation of the opinions of at least a vast majority of those in business?—That is so. I have a letter from Salford this morning.

1198. You say that 10 years ago, about 1836, you memorialised the Government with regard to the conditions of the transit of live stock from Ireland?—Yes.

1199. Has anything resulted from that?—Speaking from memory, Lord Spencer said that he could not interfere. That is what it amounted to. I was looking up some of the replies, and I could not find them all. He referred us to Sir William Kaye, at the Veterinary Department, in Dublin, and we were referred from there back again to the Board of Trade, in England.

Of course, we naturally lost courage and hope. We got very little remedy. We did memorialise the President of the Board of Agriculture the very first go.

1200. When was that?—That would be about 1838.

1201. Am I to understand from your reply that there was a series of circumlocution memorials, without any result whatever, to the various officials who were supposed to be responsible for this business, and that, as a matter of fact, there was a policy of masterly inactivity pursued by the Government in respect to this question?—Quite so; we could never find anybody who would acknowledge the responsibility.

1202. That is to say, that you men of Liverpool and Lancashire, generally, tried to push forward this question, and you could find nobody responsible in the Governmental sense of the word?—That is so, quite.

1203. And although you pay taxes you could not obtain any redress on this particular question which cost you so much money; is that what you mean?—We could not.

1204. You state, as your deliberate opinion, and I suppose you would have no objection to giving sworn evidence on the point, that at least one-third of the Irish cattle are injured?—If you take it from the middle of September to Christmas, certainly more than two-thirds are injured, more or less.

1205. Would you be prepared to make an affidavit to the effect that one-third of the Irish cattle that you have come in contact with during the course of your business, say for the last 30 years, have been injured?—I would.

1206. You represented this state of affairs to the portions of the Government and Government Departments which are supposed to be responsible more than 10 years ago, and no action was taken?—That is so.

1207. Are you of opinion that there is at least 10s. depreciation in the value of every fat Irish beast that goes to Liverpool and Lancashire generally?—Yes, at the very least.

1208. Am I to understand that if there were 1,000 fat cattle there would be a loss of 500*l.* in the business transactions on these fat cattle?—Yes, there would.

1209. By reason of an insurance fund which the men in your business would provide as a kind of recompense for the loss on bruises?—Yes.

1210. Quite?—Quite that.

1211. You are quite prepared to prove that by evidence outside yourself?—I am quite prepared to prove that.

1212. By evidence from various quarters of Lancashire?—Yes.

1213. Did you see more than one instance where the hide dropped off the beast after it was partially skinned in the way that you and I know, as experts, when it was hung up?—Yes, I have seen it in more than one instance; but the particular instance that I referred to was, to the best of my recollection, the case of seven bullocks, and they were all the same.

1214. All the same?—All the same; that was the worse case I ever saw.

1215. Do you think there is an immense amount of excruciating agony which must be borne by these cattle previously to their killing in consequence of their being in that state?—Yes; it is horrible to think of.

1216. Have you sufficient knowledge of the conditions under which these cattle are carried during shipment to know that there is no trimming pen for cattle when they are "down" provided in the Irish cross-channel transit?—My experience would go to this, that as the cattle are loaded now a man would really be running a great risk in going down amongst the cattle if they once broke loose or got down.

1217. Then, so far as your knowledge goes, from the experience that you have from crossing, when a beast what we call "drops" or goes down he must remain there until he is trampled to death or live as he best can until the vessel arrives?—That is so; that is my experience.

1218. Do you think that that is a satisfactory state of things?—Certainly not.

1219. Now what is your experience as a business man, as a retailer of the meat that comes to you in that

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very bruised condition?—I have tried to put it, that when the animal is injured it causes pain and suffering, which affect the very fibre of the flesh; that is my experience. It turns the meat black, dry, and hard, and the meat seems to lose all that nutritious sap which the beef ought in its natural state to contain.

1220. You cannot give any of it to your customers?—You cannot, certainly not.

1221. It is of no use to you?—No use; we would lose the customers.

1222. It would expose you to prosecution from the meat inspectors?—I do not know that it would go that far. We do not say that it is not wholesome, but we have seen it in such a state that a great deal of it had to be cut off that would not be wholesome and would expose us to prosecution if we did expose it for sale.

1223. That comes to the same thing. So that, practically, the carcasses are of no use to you, particularly in the more valuable parts, the ribs, and sirloins?—Not when they have been trampled upon.

1224. Is it your opinion that the major portion of this depreciation comes from the carelessness of the shipping companies during the transit of the cattle from Ireland?—Decidedly so.

1225. You are perfectly clear that the shipping companies are responsible—it is your opinion, at least, that the shipping companies are responsible for the greater portion of these great damages?—I am perfectly satisfied of that from what I have seen of the way in which the cattle are loaded.

1226. In that reply the general opinion of your confrères coincide?—That is so.

1227. That is to say, in the cases of general bruises?—In cases of general bruises, especially when they are very badly bruised.

1228. You say you are of opinion that the smaller bruises, such for instance, as a stick mark, or something of that kind, produce a depreciation in the value of the beast to the extent of a farthing a pound?—Yes, quite that.

1229. Something like 15s. on the beast?—Yes.

1230. I believe you recommend that the drover should be licensed?—I do.

1231. And that the shipowners should provide what is called bullock men?—Yes.

1232. There is such a thing as having what is called bullock men, but it is not generally carried out to any extent; would you think it would be a good thing that a Government inspector should occasionally or always travel in these vessels when there would be over a certain number of live stock on board?—Decidedly so, and I would go further. I would recommend that a Government inspector should go either in the garb of a drover or in that of a dealer, as if he were a man going to buy cattle, or even to drive cattle. It is no use a man going when he can be spotted out as a Government inspector.

1233. You are clearly of opinion that the responsibility for all this mischief ought to be placed on the steam shipping companies?—Decidedly so.

1234. In your general opinion, they would be more careful if the responsibility were put upon them?—I should think so.

1235. Have you any knowledge of what is called the contracting-out clause, whereby the shipping companies will not bear any loss at all in the transaction?—That is where all the evil comes in.

1236. Have you heard of it; have you any practical experience of it?—I have no personal experience of it.

1237. Then I will not ask you upon it. You have had some personal experience of what is called the "walk-shore clause"?—Yes.

1238. That walk-shore clause means, if I understand it correctly, that any beast that walks ashore receives no portion of the insurance, even if the cattle have been sent under the high rates, is that so?—That is so.

1239. You consider that walk-shore clause a fraud, do you not?—A fraud; nothing short of it.

1240. Nothing short of a fraud?—That is so.

1241. You have had experience of this walk-shore clause with these seven beasts you spoke of, which were practically worth nothing?—They were practically worthless.

1242. Your experience in business is that the butchers always suffer the loss?—That has been so so far anyhow, but now, of course, we have this remedy, that we have American cattle landed in good condition.

1243. I was just coming to that; but that is your experience with regard to the Irish cattle transit, that the butchers always bear the loss?—Certainly.

1244. Do you ever remember any man of your trade going to law with a shipping company?—No.

1245. Why?—I do not remember any instance; but I remember one case of a very decent man—a salesman. This is my own case. I threatened to bring an action against him, and he said, "No, do not; I will allow something towards the loss," and he did. He allowed me something towards the loss, but it was nothing like the loss which I sustained. I argued it with him. I said: "Why not?"—of course, we were not enemies, you understand?—"this is a loss incurred, and we are not going to fall out on it. Why not agree that I should bring an action against you, so that you may fix the responsibility on the shipping company?" For some reasons which he did not tell me, he would not agree to that course. I have no doubt whatever that if I had brought an action against him, and brought the witnesses which I had, I should have gained, and that I should have had the losses made up to me. I have no doubt whatever of that; the animals were so bad that it was simply selling congealed blood for beef. However, he preferred making me an allowance towards the loss than that I should bring an action; and, of course, I did not want to quarrel with the gentleman—he was a friend of mine in all ways—and if he knocks a cheap lot of beasts down, it is no use quarrelling with a man like that; we cannot afford it.

1246. Is it your experience that you have no legal remedy against the shipping companies—that that is a matter of fact and experience?—As a matter of fact and experience, there has been no legal remedy; of course, they have always been dismissed on some technicality or other, when they have been tried.

1247. So that your experience is this: that the Government departments which have been charged with the responsibility of protecting live stock from injury in the cross-channel transit, have not done so up to the present?—Certainly not.

1248. And the legal department of the Government that ought to be charged with this responsibility, or at least that underwrites the protection of the weak from the strong, and to protect you from being injured by the carrying companies, have not provided law sufficient to protect you from that injury?—They have not.

1249. Then your happy condition as a butcher in Liverpool is this, that the law is of no assistance to you?—None whatever, so far.

1250. That is a very pleasant state of things, no doubt?—I would like to say one word here. In consequence of our memorial to the late President of the Board of Agriculture, he did send a gentleman down, who crossed the Channel a few times, and who interviewed several of those who were in the trade; but unfortunately that gentleman came down in the month of June, if I remember right—May or June.

1251. The best month in the year?—The least traffic, and the best weather. He ought to have come down in the month of November or December, if he wanted to see the true state of the Irish cattle traffic.

1252. It was just like looking for the heat of the sun on Christmas Day, or something of that sort, was it not?—Yes.

1253. You are in favour of the size of the pens being reduced, are you not?—I am.

1254. With regard to the States cattle and the Canadian cattle, you have had some experience in Canadian cattle, I believe?—Yes.

1255. Have you found these cattle after a journey of some thousands of miles in better condition than the Irish cattle, which come across the Channel in a few hours?—Decidedly so; there is no comparison.

1256. Your evidence is, that as a rule—I take it from what you have stated before—the exception in the Canadian and American cattle is to get one bruised?—That is so.

1257. And the exception in the case of Irish cattle is to get one sound?—That is so.

1258. As a reasonable man, judging causes from results, how would you account for the fact that cattle

can be carried thousands of miles more safely than they can a few hundred?—For one thing, there is what you might call a fair trade competition. We all know that the American producer can dispose of his cattle in other ways than by sending them alive to England, whereas the surplus stock of Ireland has to come over to England, or to Scotland, and there is no benefit—no direct benefit, I mean—there is no interest of trade to the steamship owner to induce him to provide better accommodation. He gets the surplus stockyard afloat to England, or to Scotland, and he will get no more; it does not matter what the accommodation is.

1259. He carries them in what way he likes?—He carries them in any way he likes, because he is sure of the traffic, and there is no more to be had. In the case of the American traffic, again, just go, for instance, as I had the pleasure one day this week, to examine, say, a steamer like the "Cevic." You can see at once where the difference is. It is like a splendid stockyard afloat; the cattle actually would feed on that steamer, and not deteriorate. Of course we do not expect to get such large steamers as that coming from Ireland here, but we hope to get something very different to what we have at present.

1260. Then your opinion is that the duty of the Government ought to be to remedy this state of things?—That is my opinion strongly.

1261. And that is the reason why you came to give evidence before this Departmental Committee?—That is so.

1262. Are you of opinion that in the sea that exists between Ireland and England there is not sufficient care taken either by the Government or by the carriers in the transit of live stock?—Certainly.

1263. And are you prepared to verify that by as many witnesses as this Committee can give time to hear?—It would last till Christmas.

1264. Now with regard to the landing-stage at Liverpool, I was going to ask you a question, but a gentleman here connected with Liverpool can ask you that. You think the responsibility ought to be enforced on someone?—Decidedly.

1265. And until responsibility is forced on someone, things will remain in their present unsatisfactory condition?—Just so; that is my conviction.

1266. You believe that there are hundreds of thousands of pounds wasted every year through the carelessness in carrying animals—mainly cattle and pigs—across from Ireland which might be obviated?—I should think certainly not less than half a million?

1267. Half a million a year?—Not a penny less.

1268. (Mr. Cullen) Now, I understood you to say that you kill Scotch and Irish cattle?—Yes, that is so.

1269. That is, British produce?—Yes.

1270. Then I understand that under the present regulations, if any person says that that is American produce, you are liable to prove it is not so; is not that the case?—Under the present legislation it is so.

1271. It is so, as a matter of fact?—Under the Merchandise Marks Act it is so.

1272. You do not want to inflict any responsibility on the shipowners which you are not, as a respectable tradesman selling British produce, under yourself?—We are under the same obligation.

1273. And that is a responsibility which you want to fix upon the shipowners; that is, that they are to prove that the Orders in Council are carried out?—Quite so; and that no injury has been done to the cattle.

1274. In other words, the proving of the negative is thrown on them as it is on you, as a respectable tradesman?—Quite so; and both on the same ground.

1275. I understood you to say that you had practically no legal recourse open to you in the case of any damage done to these cattle. Did you suggest that there was a harmonious conference or trades unionism of the leading carriers for their protection, or certain regulations of freights, so that in the event of anybody taking action you would be prevented from getting redress?—I do not think that I meant to suggest that. I gave one particular instance. It was such a glaring one that I consulted my friends, that is, the Butchers' Association, and they strongly advised me to bring an action, just as a test. I spoke to the gentleman, and I am not afraid of giving his name. There is no secret. He said, "Don't." He is a perfect gentleman and

friend in every way, and we are always on good terms. It is very undesirable to pick up a quarrel with a man whom you have respected for years, and done business with. He said, "I will do something towards the loss; do not bring the action." Of course I gave way—I would have a thick head not to. I pointed out to him; "If you will allow me to do this, you will be able to fix the responsibility on the steamship owner; it will land somewhere or other. What we want to know is: who is responsible?"

1276. (Mr. Field.) Yes; where are we?—Yes; we want to know where we are. But I do not suggest that there was any combination on the part of the stockowners, or of anybody else, to prevent compensation being paid.

1277. (Mr. Cullen.) Or on the part of the carriers?—I am not going to speak of anything I do not know. I do not know that there was any combination, and I could not say.

1278. Was there a conference?—I am not aware of it; it may be in evidence, but I do not know of it.

1279. Talking about the pens, I understand that there seems to be no difference with regard to lessening the number of pens; but would you approve of shifting pens; that is, where the pens are 15 feet, as they are at present, shifting-boards should be made so that the pens should contain two, three, four, or five at the utmost?—Yes.

1280. And enlarged according to circumstances, or diminished?—Yes; and I would certainly think it was the duty of the Board of Trade to see that those pens are strong enough. Sometimes these pens give way.

1281. Exactly; suitably strong?—Yes.

1282. But you have no objection to that shifting motion of the present pens?—Quite so; but I do say this, that the beasts would be much better if they were tied with their hind-quarters against the bulwark instead of their heads. We find that the beast is tied with his head against a bulwark. The result is that, if the steamer is rolling, the beast goes headlong against the bulwark; whereas if the beast's head was the other way it would withstand the motion of the vessel very much better.

1283. I am not quite sure of that; would that not depend entirely upon the way the wind was blowing?—Quite; if the vessel rolls, she rolls; if she pitches, she pitches.

1284. (Mr. Field.) Some do both?—Sometimes they do both.

1285. (Mr. Cullen.) With reference to the gradient on shipboard, I understood you went to Dublin on purpose to see this?—To see the cattle loaded.

1286. And that you took particular notice of the gradient on shipboard?—Yes.

1287. Could you tell me relatively the gradient going into the lower hold of the steamers in Dublin at low water when you saw them, and the difference of the gradient at the landing stage at Liverpool?—From what I have seen of the landing stage, of course the gradient is considerably less at the landing stage than it was in Dublin when I saw it.

1288. It is considerably less?—Yes.

1289. I suppose it is about one-half?—It is about one-half in Liverpool what it is in Dublin. I saw it once in Dublin and it was nothing short of 45 degrees. It was not measured; I had not a level to take it with, but it could not be less than that.

1290. Have you any suggestion to make how that could be remedied?—If the stage was fore and aft instead of across the ship, would not that lengthen it and reduce the gradient?—Certainly it would if they had a stage, or reduced the high level of the quay.

1291. Would you suggest that—I am only taking the quay and the lower holds?—I do not see how that can be remedied very much unless you have a steamer of wider beam. If the steamer is only of the same breadth, and the beast has got to be taken down into the lower hold, it has not room to turn round at that end and at this end, and you are bound to make your gangway very steep so as to make it fit.

1292. But could not the gangway go fore and aft instead of transverse the ship?—You would do it certainly with a gangway fore and aft.

1293. That might be done?—Yes, might be done.

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1294. Do you make that as a suggestion?—Yes, that would be an improvement on the present vessels.

1295. Then the gradient from the quay in Dublin down to the deck of the vessel at low water, the first deck, is much greater—is about twice as great as it is at the landing stage in Liverpool?—That is so.

1296. Is it possible to improve the landing at the Clarence Dock at Liverpool, so far as concerns the space provided for the sorting of the cattle?—Yes, it would be if there were pens made.

1297. I am only taking it practically; are you aware that there are three lines of railway there and the electric railway overhead?—Yes.

1298. All those would have to be removed?—The cattle could be landed somewhere else, they are not married to that particular spot.

1299. That is exactly what I wanted to make out; that is what we want; I understand you practically recommend all cattle to be tied?—Certainly.

1300. And the drovers to be all licensed?—Yes.

1301. Mr. Field has mentioned about trimming pens. These pens are for invalid cattle, or for those which are injured, and I presume that you will recommend them?—Decidedly, so that if a beast is at all injured, by chance, it might get down where the men could take it and put it into a trimming pen.

1302. (Mr. Booth.) You were speaking of the case of two men on board a boat with 300 cattle as being inadequate to do anything to keep the beasts safe. I suppose your idea with regard to the attendance on board ship is not only to have enough men to enable beasts to walk ashore, but also if possible to prevent a great deal of the damage that comes to the beasts that do have ultimately to walk ashore?—Yes.

1303. What number of attendants, if you have any opinion on the subject, do you think is desirable for cross-channel traffic in proportion to the cattle?—Of course we generally have very much rougher weather at the back end of the year, and there are larger numbers of cattle loaded, sometimes as many as 400 beasts. There ought to be, I should say, a man to every 30 or 40 beasts, at least in rough weather, whereas in fine weather it would not be necessary to have so many; there are fewer cattle, consequently more room and they can be got at better. With the cattle in rough weather there is greater pressure; there is a greater number of beasts; they require a great deal more care taken of them, and it is more difficult to do it.

1304. Do you know what the number is that are allowed in the Atlantic trade?—I forget now.

1305. Your idea is that one man to every 30 or 40 is necessary on every ship that is full of cattle during the autumn and winter months?—Yes.

1306. As to your idea with regard to the responsibility of the steamboat company, the reason that you want the responsibility placed on the steamboat company is partly from this point of view of the attendants on the cattle, that they are really the only people who can control the attendants on board the boat?—That is so.

1307. There is nobody there that can control the attendants except the authorities of the steamboat company?—Except the authorities of the steamboat company, unless the man who owns the cattle chooses to go with them.

1308. Also you have said that the consignments are made to a large extent in small lots; the owners of them cannot, of course, send an attendant with them in each case?—That is so.

1309. Consequently these lots, as I understand, are entirely dependent upon such care and attendance as can be provided by the steamboat company?—There is no care and attendance; that is my experience.

1310. If any is given at all, it must be given by the steamboat company?—It must be given by them. There are some of the steamers who carry one or two bullock men, who pretend to take care of them, but then that is quite inadequate.

1311. During the busy months of the year, in the autumn and early winter especially, many of the boats are carrying cattle on three decks?—Yes, they do.

1312. And many of the boats that are paddle boats have different holds; they are divided between the two ends, forward and aft?—Yes.

1313. So that if you are down, for instance, in the lower hold or in the 'tween decks, there is no connexion, there is no communication, between the one end of the boat and the other?—No, they could not see through.

1314. So you have four, five, or six absolutely separate holds?—That is so.

1315. Which have to be attended to by the cattle-men?—That is so.

1316. And you believe it often happens that there are only two men on board one boat, even though she may have as many as 300 cattle?—Very often.

1317. The question of the breadth of beam was referred to, and you said that a reason for wishing for a greater breadth of beam was the steepness of the gangways. Are there any other reasons in favour of vessels of a somewhat larger breadth of beam?—A larger beam vessel would sail better. She would not be quite so liable to rolling and pitching as a narrow boat like these Irish boats are.

1318. Would it be more easy in such a vessel—a larger vessel, or at any rate it is more difficult in a narrow vessel—to provide a passage way for the cattle men from end to end between the beasts?—Quite so.

1319. (Mr. Watson.) Have you any experience of the sea part of the journey?—I have crossed occasionally. I do not cross every week with cattle.

1320. You have given opinions as regards the stability and other points connected with the ship—the number of holds and so on?—Yes.

1321. I merely wanted to know whether you knew those things from your own knowledge or not?—Yes, certainly.

1322. You speak of them having five or six different holds, in which cattle may be placed. I do not myself know of any ship that has that number; that is the reason I asked you the question?—I think there are some with five, anyhow—I do not remember any with six.

1323. You know of five?—Yes, but I do not remember six.

1324. As regards beam, are you aware that practically the stages are much more guided by the height between decks than by the height of the ship, so as to get head room for the beasts?—They are guided by both.

1325. The head room under the beams is really what determines the angle of walking down?—Any one going down the holds of any one of those vessels when the cattle have been taken out would never think of lowering the height of the deck, because the ventilation is horrible now.

1326. It would be necessary to raise the height to meet your point?—Raising the height of the deck would make the gangway still more steep.

1327. Raising the height would make it less—it would give you more head room?—It would give you more head room.

1328. You could carry it further underneath; I merely asked you to see whether you have any experience. But as regards the main question you have given evidence upon, it is the loss on Irish cattle I understand?—Yes.

1329. You have two points—the loss on Irish cattle, and that it happens entirely on board the steamers; I do not want to take you any further; you said yourself that a serious loss happens on board the steamers?—That is so.

1330. You consider that there is no trampling of cattle in the railway trucks on the Irish side?—Very seldom. Besides that, if the beasts were trampled on on the Irish side in the railway trucks, I should never think the steamship company would put them on the steamers.

1331. You assume that a trampled beast would never be shipped?—It would never be shipped by any sane man.

1332. Now, as regards this pen that you speak of, which I think you called a transporting pen?—A shifting pen.

1333. Do you mean that a beast should be brought from any part of the ship to that?—No.

1334. Then I do not quite understand you?—What I mean by the shifting pen is that you get the beasts and

you put them in rows and you put the pens down between them after the beasts are tied; that is what I mean by a shifting pen; that is what I take it to be.

1335. I thought you meant a pen to bring a beast to?—In the case of an invalid beast, a beast that was trampled down, and could not take its stand among the other cattle, certainly you would put it by itself.

1336. Do you think it would be possible to bring a beast from one part of the ship to such a pen?—I do not think it has ever been attempted; there might be some difficulty in it—I agree with you there—there is some difficulty.

1337. I was not quite sure that I understood what you meant by this moving pen. As regards a trampled beast, it is a beast that is trampled down, but which does not die, I presume in all cases?—Not in all cases. I have given an instance where they have walked out of the boat.

1338. Even after this trampling?—After this trampling they have walked out of the boat into the market, and after that they were sold and taken into the slaughter-house, and when they were killed after the hide was loosened from their flanks, and their breasts and their legs, it simply dropped off the back.

1339. I was going to ask you as to that, because that seems a very serious matter. Do you mean to say that the hide of the live beast is practically loose?—It is practically loose—as loose as this (*describing*).

1340. Separated?—Separated from the flesh.

1341. When you are taking the hide off, do you begin at the head, or where do you begin?—I explained before that in the operation of dressing a beast, we turn it on its back to begin with, and we flay from the breast and the flanks and the legs, and when that is done we hoist the beast up; and in this case that I spoke of, when the hide was loosened at the tail the hide dropped down. There was nothing whatever on the back of the beast to hold the hide to it.

1342. It was absolutely loose?—Absolutely loose.

1343. As regards insurance, is it your impression that there should be an insurance rate to insure the beast turning out in perfect condition when slaughtered?—That opens up a very wide question. My candid opinion is this, that if once you fix the responsibility of delivering these cattle in sound condition on the steamship owners, it will be done. If it can be done from America, why cannot it be done from Ireland?

1344. You mean that the rate, or the insurance, rather, should cover that?—Decidedly.

1345. Would you prevent the owner of the beast taking the risk himself, if he wished to do so?—I would do so; by all means I would prevent that.

1346. You know, of course, that at present in most cases the rates do cover the walk-ashore insurance?—That is so.

1347. And that the owner may take the risk on himself if he likes?—Every sender of cattle knows very well that the walk-ashore clause is simply a fraud, and that it is really worthless. A beast does not very often break his leg on board ship, but unless he breaks his leg on board ship he will walk ashore.

1348. Owners at present may take the risk themselves?—They generally do, because the ordinary damage done to a beast is not covered by this clause, for, so long as a beast walks ashore, the steamship owner is free, and there are very few beasts who get their legs broken, and the walk-ashore clause is really only a guarantee against that.

1349. (*Mr. Field.*) The butchers have to bear the loss?—The butchers have to bear it, certainly.

1350. (*Mr. Watson.*) Then as regards the actual loss, you put that down on Irish cattle as an average of 10s. per head?—I do.

1351. On whom does that loss fall?—On the butchers.

1352. Do the butchers give as much for the cattle as they would if they were perfectly sound?—I would like to explain how it is now.

1353. Please do; I do not quite understand that point?—Up to the importation of American cattle we

were forced to do it, because we had nothing else to buy, but Mr. Cullen knows that since the American cattle have been brought in the Irish cattle have suffered in price at least 10s. per head.

1354. Do you mean that now the loss falls on the grazier?—On the grazier, more so than on the butcher.

1355. And not on the butcher?—Not so much now.

1356. If he gives 10s. less, of course it does not fall on him?—It does not always follow that he gives 10s. less. If a man is in the habit of getting Irish cattle, and he likes to buy Irish cattle, he does not care to turn from one class of beast to another. In my own case I always kill Irish cattle in the summer time, and on to the back end, and Scotch cattle in the spring, if I can get them. Whenever I cannot get Scotch cattle, I buy Irish cattle in the spring time of the year. Although I am in the market, and I am not able to put my hands on a lot of beasts that I am perfectly satisfied are not bruised, still I do not change my mode of business, and go over to Birkenhead and buy American beef. I buy Irish cattle, and very likely suffer a loss.

1357. Which is the highest price given for at present, Irish or American, weight for weight?—Weight for weight there is very little difference between Irish and American, if you get both of real prime quality, and the same kind of make, that is, carrying the same proportion of flesh in the choice parts of the beast. If you get the Irish and the American equal in that respect, there is very little difference, but of course, the Scotch beasts will make a halfpenny, or perhaps five-eighths or three farthings a pound more, if they are really prime.

1358. You say at present the loss is borne partly by the dealer and partly by the butcher?—Partly; not so much so as it was years ago.

1359. Would the dealer or the grazier be willing to give an enhanced price to ensure against all these damages, invisible damages I think you called them?—Really, it is hard for me to say what a dealer or grazier would do, but I know one thing: if the dealer or the grazier warranted the cattle to the butcher free from bruises, the butcher would pay an enhanced price.

1360. I was just going to ask that question. If you got them warranted, would you give an enhanced price?—Yes, we would, decidedly.

1361. (*Sir W. Kaye.*) Did you often cross from Ireland with Irish cattle?—Not very often. I do not buy cattle in Ireland. When I go to Ireland I go there on pleasure, but I keep a very close eye and watch the process of loading.

1362. Was it rough weather or smooth weather when you made the passages?—I have passed in both.

1363. There was nothing to cause you to make any representations to the shipping companies for anything that occurred during your passages?—I made a representation to the Dublin Steamship Company about the gangways the last time I was in Ireland.

1364. The gangways?—Yes, about the gangways in loading, and I may say—I forget the gentleman's name now—that he undertook to cut the ends of these gangways off straight, and the next time we went there it was done; but still that is only a very minor matter.

1365. That is something done?—That is something.

1366. About the landing place at Liverpool, are not the Corporation making great preparations to improve that very much?—I have heard some talk of it. I do not know what they are going to do, I am sure. Unfortunately it is under the Dock Board.

1367. (*Mr. Watson.*) With reference to the gangway ends that you spoke of, you dwelt a great deal on it in the first part of your evidence as being a large source of injury?—There is no doubt it has been.

1368. You say it has been cut off in some cases?—I will say that the manager in charge of the Dublin Steamship Company willingly sent a man to cut them off, and they were cut off immediately.

1369. (*Sir W. Kaye.*) Your opinion is that the men in charge of cattle on board the steamer should be, in point of fact, part of the ship's crew?—Decidedly so, so that they would be under the command of the captain and other officers.

The witness withdrew.

Adjourned to Tuesday, the 3rd of April, at 12 o'clock.

Mr.
D. Davies.

21 March 1894.

THIRD DAY.

At No. 7, Whitehall Place, S.W.

Tuesday, 3rd April 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B.
Mr. ALFRED BOOTH.
Mr. HUGH CULLEN.

Mr. J. PARKER SMITH, M.P.
Major JOHN TRENCHARD TENNANT.
Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Mr. HUGH BRECHIN called and examined.

Mr.
H. Brechin.
3 April 1894.

1370. (*Chairman.*) You are one of the magistrates of Glasgow and a member of the Market Trust Committee, and also a member of the Executive of the Local Authority under the Contagious Diseases (Animals) Act, are you not?—I am.

1371. You have been deputed by the Glasgow authorities to come up and give evidence on their behalf?—I have.

1372. Besides that, I understand you are a partner in the firm of Brechin Brothers, fleshers, in Glasgow and Edinburgh?—I am.

1373. And in that way you have a large practical acquaintance with the matter which we are investigating?—I think so.

1374. Your firm is a long-established one and has a very large business, has it not?—Yes, for 32 years we have been in business.

1375. As both a wholesale and retail business?—Yes, both.

1376. Then you have a good deal of experience with respect to the state in which Irish cattle arrive in Scotland?—Yes, I have had considerable experience.

1377. In your public capacity also, your attention has been frequently called to the condition in which Irish cattle arrive?—Yes, the question has been frequently before the town council of Glasgow.

1378. Your experience is, that in many cases cattle not showing any signs of injury are found when slaughtered to be in a very bad condition?—Yes.

1379. And the carcasses often show bruises, and the meat in consequence is greatly deteriorated?—Very often.

1380. Can you say whether in the Glasgow trade any approximate figure is set down as the average deterioration which the Irish cattle suffer from this cause. I believe from that cause in Liverpool the deterioration is considered to be 10s. per head?—I should say at the very best the average Irish bullock is never so good as the Scotch bullock is; but the fact that the fear of its being bruised deteriorates the animals to the extent of 2d. per lb.: a fairly weighted Irish bullock from 20s. to 28s.

1381. Do you mean to say that a bullock which, if it were Scotch, or if it had been in Scotland for a couple of months, would sell at 20s. or 28s. more than if it had just come over from Ireland?—It would bring 4s. per cwt. more than a direct Irish bullock would.

1382. You put the average deterioration at a higher rate than they do in Liverpool?—I take it that the Irish beast is not so good to begin with as the Scotch beast is.

1383. But I want to get some idea from you: take an animal of the same weight and the same character freshly arrived, after having been in Scotland for a few months; I wish to know if you could give us any estimate of the deterioration suffered in the passage?—An animal having just arrived from Ireland would be worth from 20s. to 28s. per head less than if it had been two months in Scotland and had fully settled down.

1384. In transactions in Irish cattle an allowance is always made for the possibility of bruises, amounting to from 20s. to 28s., you say?—That is my experience.

1385. Besides bruises, the flesh is deteriorated on account of the treatment which the beast has undergone?—Very often that is so.

1386. It is discoloured and blackened, I understand?—It is discoloured. The animal is in a state of fever probably, and consequently when it is slaughtered its flesh is dry and black.

1387. Then with reference to store cattle, what is your experience?—Well, my practical experience with store cattle is not what it has been with fat cattle, but I have no hesitation in saying that store cattle, with the usage which it has to undergo in crossing, deteriorates the animal from what it would otherwise be in value if it arrived in proper condition.

1388. It is much longer in fattening than an animal brought from Canada, for instance?—I should say that a Canadian bullock will feed right away, whereas an Irish animal will take some time to recover itself before it can get a start away in the way of fattening.

1389. Have you frequently inspected cattle-carrying steamers?—I have.

1390. What is your opinion as to the deterioration?—Comparing the Irish cattle steamer, with Canadian steamers or States steamers, I think the advantage is entirely on the side of the Canadian or the States steamers, so much so, that a butcher has no difficulty or no hesitation in slaughtering an animal right away when it arrives from a Canadian steamer or a States steamer, whereas a butcher would not readily slaughter an Irish animal direct from an Irish steamer.

1391. As a matter of fact are the Irish animals generally slaughtered on landing or are they kept over?—Where butchers have facilities for keeping them over I should say they are generally kept over.

1392. What do you do in your business?—We buy Scotch cattle, and we are so much afraid of Irish cattle that we seldom buy them.

1393. What suggestions have you to make in connexion with the stowing of cattle on board ship?—I think, in place of cattle being shipped in bulk, if they were tied up in pens on board and battened in such a way as to prevent them slipping and sliding, it would tend to their landing at the ports of debarkation in a very much better condition than they generally do.

1394. You propose that there should be dividing partitions and battens and cross battens so as to prevent the animals slipping from side to side?—It would be a very decided improvement on the present system to have that so.

1395. Do you consider that much damage occurs through animals falling on each other?—A very great deal of damage.

1396. Have you had any very bad cases of animals under your own eye?—Frequently I have seen cattle slaughtered with bruises all over them, from the fact of their getting down and the difficulty of their getting up again.

1397. The injuries that you have seen must have entailed a great deal of suffering on the animals?—Yes.

1398. Then about the watering and feeding of animals on board, what do you say?—I think that facilities should be given for the watering and feeding of animals on board ship.

1399. You would have the Irish cattle steamers fitted up in the same way, so far as watering and feeding are concerned, as the transatlantic liners?—I should have them fitted up in such a way that in the event of a steamer being detained in a fog, water could be provided for the animals. The animal which is only 8 or 10 hours on the water has not so much need for watering, but facilities should be given for watering in case they are detained longer.

1400. When the cattle arrive are they fed before being slaughtered?—They do get some food generally speaking.

1401. We are told that it is customary in the trade not to give them anything 20 hours before being slaughtered?—No, I do not think so. I think that almost amounts to cruelty; if our own animals were being treated in that way we would object.

1402. You do not consider it necessary for them to fast 24 hours?—I do not think so.

1403. But you are aware that that practice is considerably followed?—I believe some may carry out that practice.

1404. What is the theory of the matter?—That the animal may cut cleaner in the flesh after the state of semi-starvation. That can be the only reason I can say, or the chief reason at all events.

1405. Has that practice been abandoned in Glasgow generally?—I cannot speak for Glasgow, but I can speak within my own knowledge from my own experience; we do not allow that to be done with our own cattle.

1406. Then you would insist upon the animals being roped by the head on board?—It would be much better.

1407. You are in favour of restricting the time they are on board by preventing them being put on board until a short time of the steamer sailing?—I think they ought to be kept off the ship as long as they possibly can.

1408. You think they should be inspected before being put on board by the local authority?—It would be a much more satisfactory way.

1409. But they are inspected, are they not, by the veterinary surgeon in Ireland?—I do not know the practice in Ireland.

1410. We have had it given in evidence that they are not allowed to be shipped until they are inspected?—I do not know whether the inspector has the right to reject cattle as being unfit for shipment, they, perhaps, having been done up in walking.

1411. You wish to make a suggestion to meet the difficulty of the steep gangways. Please explain to us what it is you suggest?—There should be a sliding breast on the wharf at both ends, if it is not there, so as to make the gangway much less perpendicular than it is, and thereby make the going in and getting out as easy as possible for the animals.

1412. The result of the steepness is, in your experience, to cause a great deal of unnecessary ill-treatment?—Animals will not take to the steep way very readily, and they are forced up.

1413. Have you any opinion as to the relative humanity of the goad or stick in driving cattle?—The goad, I should say, if it is not in a sense sharp, is a much more humane way of treating an animal than belying it mercilessly, as is often done, with a heavy stick.

1414. What is used in Glasgow?—I think, in the foreign animals wharf, so far as I have noticed, I have often seen a goad used, but I have not seen it used in going along the streets with Irish cattle.

1415. Are the Market Trust Committee satisfied with the landing accommodation in Glasgow, or have they any suggestion to make for its improvement?—They have never seriously considered that, but so far as I know, we had about 180 animals landed as dead carcasses in the Glasgow slaughter house during last

year from the Irish boats. That is official information I had from the superintendent of the markets.

1416. How many have been landed altogether?—I have not got that information. Of course, in the markets we cannot get the information so far as store cattle is concerned, because we take no cognisance of them in the cattle market. We never get near it; it is fat cattle that is chiefly sent there.

1417. Last year, you said; do you mean 1893?—Yes, there were 180 animals landed dead.

1418. Did the officials, in conveying that information to you, give any details as to the causes of this mortality?—No; the superintendent of the markets, I think, was unable to do so, but from the fact of cattle being bruised after being stripped and dressed, it was supposed that it was through the rough usage, or it may have been from suffocation.

1419. In the markets under your Trust is there proper facility for the cattle being watered and fed?—Yes, we have facilities for feeding cattle, but I should say that there ought to be a common place for cattle being put on arriving. No later than Saturday about 250 store cattle passed my doors, and I made inquiries, and I found that they had not been allowed to get water after arriving, but had been pushed along from the boat. I think that these cattle ought to be allowed to rest for two or three hours, perhaps.

1420. With what department would the providing of accommodation lie; would it lie with the Clyde Trust?—No, the Board of Agriculture in Glasgow is the local authority on that point; but we have no power to compel accommodation to be given us. I should say it would lie with the Clyde Trust, unless we, as a local authority, were compelled by the Board of Agriculture to make such a provision, and as a matter of course we should be empowered to make charges for the provision.

1421. Has the Board of Agriculture ever given you any orders relating to the transit of cattle?—We have had suggestions from the Board of Agriculture as to the providing of a place for the reception of cattle. We had suggestions from them, but not any orders.

1422. Did they suggest that they should do it?—Not the Market Trust, but the local authority under the Contagious Diseases Act.

1423. What did the local authority do in the matter?—I think we had no power to do so, and evidently, in our opinion, as a local authority they could not compel us to do anything. Such was our opinion as we got it from our clerk as a guide.

1424. As a local authority, if you had the power to do it, you would be willing?—We would be obliged to do it. If the Board of Agriculture say we must do a certain thing there is no choice.

1425. Has there been any friction between the different trusts and authorities in Glasgow on the subject of accommodation for cattle?—Nothing in the world, so far as I know.

1426. You have never gone across in cattle boats?—I have come across from Dublin in steamboats carrying cattle.

1427. Would this stretcher alteration in the wharves that you propose involve much expense?—The difficulty would be in Glasgow to find a place at the wharf exactly; the accommodation is so limited there that there would be considerable difficulty in finding a place convenient at the wharf.

1428. The local authority proposed to send up Councillor Watson to give evidence?—I am here, being a member of both committees, but I am here rather from the local authority.

1429. But you know the sort of evidence he would give?—Yes, I have a fair knowledge of his evidence.

1430. I think you have seen his proof?—I have gone over it.

1431. Is there any point on which you would care to refer to anything that he says?—I am not aware of any point.

1432. I would just ask you, with reference to a point in Mr. Watson's proof, where he says fat and store animals are damaged to the extent of not less than 1*l*. per head?—His opinion and mine are very much the same. When I say from 20*s*. to 30*s*.. I take it into consideration that the Irish animal is not so good to begin with as the Scotch animal.

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1433. I suppose that the Trust that he represents is of opinion that the deterioration could be largely lessened by making it compulsory for cattle to be fed, and watered, and rested for five or six hours before shipment, better loading arrangements, and by improved accommodation on board ship?—That is the feeling of the Market Committee.

1434. He proposed to give evidence to the effect that the lairage accommodation at Glasgow is not required, because all the live stock salesmen have extensive cattle sheds of the best description. Does that coincide with your view?—Not exactly, because of the fact that some cattle never got near the lairages. As I have said before, I have seen 250 cattle pass my door direct from the steamer to the railway station, and that shows that those cattle have no time to get near the lairage at all.

1435. Mr. Watson would say that the railway companies have provided at their stations extensive lairage accommodation, with ample conveniences for feeding and watering?—They have such, but I should fear that if a train were about to start that they would not lose that train for the purpose of feeding and watering the cattle.

1436. Have you any opinion as to whether it would be better for cattle to be rested or to keep them knocking about in a lairage in a railway station for 12 hours if they have a very long distance to go?—It is all subject to the distance they have to go, but from Glasgow Irish cattle, speaking generally, go perhaps to Perth or away north.

1437. Would you be of opinion that it is desirable to pass an order to make it compulsory that animals should be rested and fed for a stated period?—I should think so, and it would be to the advantage of the owner of the animal, and the animal would look much better when placed in the market.

1438. Would not it be very difficult as a matter of detail to regulate how the resting was to take place, and so on?—There might be a difficulty as to the time that an animal should rest.

1439. If you had cattle about to be transported so many hundred miles, and others only a few miles, there might be a different arrangement?—No doubt.

1440. (*Sir William Kaye*.) Have you travelled frequently with cattle ships?—Not very often.

1441. What season of the year have you generally gone?—I have crossed in the summer season. I never saw in crossing the cruelties upon the animals which I have seen them suffer when they have arrived.

1442. You never saw anything to induce you to make a complaint to the Company?—I saw the means whereby the thing might arise, but I did not see it myself, for the season of the year I travelled I was not likely to.

1443. Is your firm very largely engaged in the Irish cattle trade?—No, we are not.

1444. Do you deal in cattle from any particular part of Ireland?—No, we do not ship direct from Ireland.

1445. Have you recently seen the bruised condition of animals that you have described?—In the slaughter-houses that is to be seen frequently.

1446. I did not quite understand what you said about 180 cattle being lost last year; what exactly were the circumstances?—There were 87 animals brought to market straight from Irish ports. They were dead; that was in January; and in February there were 11; March, 1; April, 1; May, 10; then we pass on to September, 5; and then October, 44, and November, 21.

1447. Was not that during a period of very severe weather?—Well, the fact of there being none in June, July, and August shows that in fine weather they are not subject to the same losses.

1448. Do you know from what port they came?—I could not say very definitely as to the port, whether it was Dublin, Belfast, Sligo, or Londonderry, or where it was.

1449. (*Mr. Watson*.) Do I understand you to say that you give your evidence as a fletcher or as a representative of the local authority in Glasgow?—I give my evidence as a practical fletcher in Glasgow, and being a member of the local authority and of the town council of Glasgow, on a matter which has engaged the town council for a good many years now.

1450. In your answer to Sir William Kaye, I think you said that you had not dealt lately with many Irish cattle?—No, from the fact that my firm do not care about them.

1451. You have not suffered the losses?—It has not affected my pocket.

1452. When you say that the Irish cattle are subject to two causes of deterioration, the original cause was that you did not think that before they left the fields they were as good as the Scotch, and then you spoke of the transit deterioration. What do you consider the difference between the Irish and Scotch cattle before they leave their own fields?—I may say that even an animal slaughtered in Ireland, an animal of 7 cwt., I would not give as much by 14s. at least as I would give for a Scotch animal.

1453. Yes, before it suffered any of the hardships?—Yes.

1454. Then the deterioration that goes on in the transit—have you any knowledge as to where it takes place, whether on board the ship or at the landing, or on the railway transit in Ireland, or the fairs in Ireland, or where it is?—I have no practical knowledge, but I should say it must be on board ship, because having been in Ireland frequently, and seen carcasses in butchers' shops, I have not seen the bruises in the carcasses in Ireland which are frequently seen in Glasgow.

1455. Your impression is that it takes place in sea transit?—Yes.

1456. What are the principal causes of the deterioration?—Perhaps the stick being used too freely and their being somewhat too harshly used, and when they get down in the ship it is extremely difficult for them to get up, and then there is the knocking against the sides of the ship, and the rump of the animal is bruised frequently.

1457. Do you think that that applies to transit at all times or only when the weather is bad?—When the weather is bad.

1458. But in fine weather do you think there is any danger?—No, I should not say that there is very immediate danger, but there is a fear even in fine weather.

1459. But the actual danger is in bad weather?—Yes.

1460. Does this loss fall upon the fletcher in Glasgow or upon the owner?—It falls upon the fletcher when he buys an animal which is bruised.

1461. But if the fletcher makes his allowance it does not fall upon him?—He discounts it so far, but even with the discount it is very often much worse than it ought to be.

1462. Do you say it falls upon both?—Yes, the owner does not get so much for the animal from the fletcher, the fletcher being under the fear that it will be bruised.

1463. And he gives too much for it?—But the fletcher, with the allowance that he is made, has given too much for it.

1464. The Scotch cattle that you compare the Irish cattle with, are they driven or railed into Glasgow?—They are railed into Glasgow.

1465. Do your remarks apply to cattle brought from all Irish ports, or is there any difference in the cattle brought from Sligo, Londonderry, Belfast, or Dublin?—Dublin cattle, speaking generally, are freer from bruises than Sligo cattle are.

1466. What do you suppose that is owing to?—I could not speak practically, but the boats may not be fitted up in the same way, and the voyage which they have is not so tempestuous as the Sligo voyage is.

1467. With reference to the watering and feeding on board I do not quite understand the answers you gave as to whether you think that cattle should be always fed and watered in voyages from Ireland or only in the case of long voyages?—Even crossing from Dublin animals are entitled to a "bottle" of hay.

1468. No matter how short the voyage?—I think that they are entitled to that considering the fact that they may not have had much before getting on board.

1469. Do you think it would be easy to arrange for watering the cattle?—Only by a bucket. There ought to be a space at the head of sufficient width to allow a man to go up in front and water the animals when necessary.

1470. On the short voyage from Belfast to Glasgow would you feed them there?—That might be unnecessary in fine weather.

1471. But you think from Dublin they should be?—Yes.

1472. As regards the tying of the cattle, do your remarks apply to all cattle, whether they were horned or not?—It applies to both; they are just as likely to be damaged as horned animals. The fact is, that the horned animals abuse their position by probing into the sides of the other animals. I have seen carcasses depreciated with that.

1473. Would you tie up all store cattle?—It would be difficult among the store cattle, there are so many calves; but they should be put in smaller places.

1474. Do you think that all cattle should be tied?—Yes, it would be much better to have them all tied.

1475. You were saying that the Board of Agriculture did not appear to have powers to compel the local authority in Scotland to provide food and water?—For Irish cattle.

1476. Are the local authorities perfectly willing to do it if it is the law?—The question has not been fully considered. As a local authority, we do not deal with Irish cattle unless they have foot-and-mouth disease or pleuro. It is only the States and Canadian cattle that we have to do with as a local authority. We do not have anything to do with Irish cattle.

1477. You do not recommend that a law should be made that it must be provided by local authorities?—In speaking of the local authority I am speaking of the local authority under the Contagious Diseases (Animals) Act. The Market Trust in Glasgow is also a local authority. When I speak of the local authority, the expression "local authority" relating to cattle in Glasgow, I mean the authority which administers the Contagious Diseases (Animals) Act. I do not speak of a local authority here in reference to market trust work.

1478. What do you suggest with reference to improving the landing arrangements at the wharves?—There should be a place common to all cattle landing.

1479. But it is not in reference to the inclination of the gangways, but after they are landed?—After they are landed it would be much better were there a common place for all cattle to be kept at the expense of some authority who would have power to levy a charge to meet the outlay.

1480. Instead of going to different places?—It would be much better to have a place common to all.

1481. You spoke of 180 cattle during the year 1893. How many did you say of those died in the months of October and November?—In the month of October my figures which I have here are 44; in November, 21, and in January, 87.

1482. The large bulk of them were in three months?—Yes; only 28 died in the other nine months of the year.

1483. Were those exceptional or normal figures that you gave for 1893?—I do not know whether they are or are not average numbers, but we have a discussion in the town council in the months of October and November frequently upon the cruelties which Irish cattle seem to suffer.

1484. (*Mr. Booth.*) Does the fact of your own firm at present not being largely in the Irish cattle trade affect your knowledge of the trade of which you are speaking?—If we slaughtered Irish cattle, and that alone, I would observe it more readily.

1485. But in your position you came in contact with Irish cattle?—As a member of the town council and the market trust, it is my duty to visit slaughter houses.

1486. And you are speaking of your own knowledge of all these facts?—Entirely.

1487. You said to Mr. Watson just now that you would not have had much reason to expect damage in fine weather, but largely in bad weather. Some witness was speaking of the miserable condition in which cattle often came on board the boat at the time of shipment; they have not been fed for some time, and they are not in a fit condition on that account to stand the voyage. But are they not as likely to be in that condition in fine weather as in bad weather?—I should say so, but

I was only speaking of certain seasons when we have a large number of store cattle. Take October and November and December. These are the three heaviest months, and January would come up pretty well.

1488. Then with regard to this feeding question, I suppose your idea of having food and water on board is that very often animals are not fed before they come on board, and therefore there may be the time on board in addition to the previous fast before coming on board?—The appearance of the animals bespeaks that.

1489. And you were also saying that to provide against unexpected delay in the sea transit you want the provision of food so as to be able to give it to them if required?—Certainly so.

1490. Then with regard to cleats on the decks, have you any special views on that subject as to how they should be arranged?—I should like, if an animal lies down, to see it able to rise again without the difficulty of getting a hold for the foot. During the wet weather the droppings from the animals increases the difficulty of an animal getting a footing.

1491. You want support both ways?—Yes, these battens should be both ways to facilitate the animal getting up.

1492. You were speaking of the fevered condition in which some of the animals are often suffering, which is the result of the way in which they are carried. What do you think that this fevered condition arises from; is it want of food or what?—Want of food and water, and perhaps rough usage, and otherwise making an animal much more susceptible to contract foot-and-mouth disease, or any other disease, if not properly cared for.

1493. Then on the question of not feeding before slaughtering, that might not be a cruel thing to do if the animal had been fed previously to coming into your possession. You might not feed it some time before slaughtering; but you know that these Irish beasts probably are 24 hours without food and water, and then it would be a distinct cruelty to prolong it?—If the animal was taken away and fed it might be killed, but if the animal is to be kept, even 12 or 24 hours, I think it should have some little hay given to it.

1494. About the authority for providing food and water; is it not according to the rules that the owner of the landing-place has to provide a suitable place for landing, and also to have provision for feeding?—That would be the Clyde Trust in this case.

1495. Would not that be the Clyde Trust?—It would be the Clyde Trust, and with that I am not conversant.

1496. Then about the steep gangways which are more or less to be found in every place, Glasgow, Liverpool, and Dublin, your idea of a sliding breast, that is to say, that the quay is cut back so that the gangway starts in a certain place and makes a longer line and an easier incline, that can be by the construction of the top of the quay by cutting out a place where the bridge can work?—Yes.

1497. A witness stated the time of transit from Dublin to Glasgow as being 12 hours. Is not that much shorter than the fact?—That would be an exceptionally fine passage, I think; there is no boat arrives from Dublin to Glasgow in that time. From Dublin to Greenock it could be done in about 12 hours, but so far as Glasgow is concerned, it cannot be done in that time.

1498. But, practically, is it done in 12 hours?—I think it is the exception more than the rule.

1499. There are boats from Liverpool to Greenock, and they take 15 hours, and then there is the time of loading and shipping in addition?—Yes.

1500. Then on this question of detention before shipment, what is your opinion upon the practicability of keeping beasts at Dublin for rest or feeding three or four hours previous to shipment, as a general rule?—That is all a matter of expense, and money will do it all. My idea is that if the animals were so treated the cost of the treatment would be shown in the better appearance of the animal.

1501. Then with regard to the places where injuries are got, can you, as an expert, partly tell by the condition of the carcass, whether the injuries have been got on the trucks in Ireland or in the course of sea transit?—Yes, I have a fair knowledge of that.

1502. What is your opinion?—My opinion is, as I have explained before, having seen a large number of carcasses in Dublin, and having seen those carcasses as nearly free from bruises as possible, and having seen

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so many bruised in Glasgow, it convinces me that it is on board ship that these bruises are inflicted.

1503. (Mr. Cullen.) Have you ever seen many cattle ammoniacally blinded in coming from Ireland?—No.

1504. It appears from the Returns here, that Glasgow is the largest port in the United Kingdom for the reception of store cattle?—I should think that that is so.

1505. And it is principally with regard to those cattle, I understand, that your evidence is given?—No, it is with regard to fat cattle quite as much as store cattle. Of course I cannot speak as to the condition of store cattle as they land, so far as bruises are concerned, because the bruises are not seen.

1506. It was principally with reference to having them tied up?—I say, with regard to fat cattle, I am strongly of opinion that they should be tied up, and I see extreme difficulty in tying up store calves.

1507. How do you define store cattle? Would you have them one, two, or three years old, in the case of Highland Scots or polled Angus, when those animals are fed in Ireland?—Perhaps animals from two to two-and-a-half years old might be defined as store cattle.

1508. But how would you define them in a practical way for shipowners if they were to be compelled to tie all animals up in that way?—There is a difficulty about it, but if an inspector had authority to say which should be tied up and which should go in bulk, that would meet the difficulty, I should say.

1509. But still the different kinds of cattle would come in there, and I understand that a great number of those store cattle are not exactly store cattle in the sense of store cattle, but some of them are smaller produce, and are shipped as stores?—A store animal from Ireland is more valuable, that is to say an animal weighing 4 cwt., if it is a good sort of beast—a good breed—is worth more as a store cattle than as a fat animal.

1510. But it is the definition I want. How do you define store cattle?—A practical man at the other side would do it. I could tell you if I saw a herd of animals passing by whether they were fit for slaughtering or tying up only for stores.

1511. But you have no other way than that for a shipowner to determine what are stores?—It would be difficult for him to draw the line.

1512. The number of cattle which you seem to have received in Glasgow is a mere bagatelle compared to what is received in Liverpool?—That is due to this: that the Glasgow butchers, like my own firm, respectable first class butchers, are unwilling to buy them.

1513. Well, then, with a view to improving the carriage of the cattle would you recommend the responsibility to be thrown upon the owners of steamers to bring the cattle safely?—That might be too much, but I might recommend that the owners of steamers should satisfy the Board of Agriculture, or some other authority, as to the steamers being in a satisfactory condition.

1514. With regard to the steamers, has size anything to do with the safe carriage of cattle in your opinion?—I am not competent to say that, but I should think a large steamer should be better able to carry safely than a small one.

1515. What is the size generally of those steamers in the Glasgow trade?—I could not give you the number of feet of length, or width either.

1516. Would you suggest that these should be absolutely under the control of the Board of Trade, who understand shipping?—They should be under some authority.

1517. And be licensed to carry, just in the same way as cabs or anything else?—Are not steamers licensed to carry a given number just now?

1518. No; would you recommend them to only have a license for a given number, and that they should be under an authority that is competent to satisfy itself as to the capacity and strength of the ship to do that special work?—They should be licensed for a given number of cattle only.

1519. Do I understand you to say that the cattle should get rest and refreshment before shipment, and also on arrival?—I should prefer that.

1520. Did you say six hours' rest?—That is a matter of opinion. I should say a few hours. There is a

danger if you give an animal water immediately on leaving in bad weather and in a heated condition.

1521. But generally, in the course of the trade, what time would you allow?—Six or eight hours.

1522. Six or eight hours in Dublin?—Yes.

1523. And the same time in Glasgow?—Yes.

1524. That is 12 hours. Do you think in the course of the trade that would be practicable?—I should say that there was increased expense, but the animal would be much better in appearance when it got to the market.

1525. And you would recommend 12 hours from your knowledge of the trade?—I do not think that it is too much.

1526. Would not that interfere very much with the other arrangements and add to the cost? Then you speak a good deal about the inclination of the stages going down into the hold and also from the ship to the quay?—They should be made as easy as possible.

1527. And it is not so at present?—I rather fear that cattle have to suffer a good deal in that way.

1528. I thought in Glasgow you had floating stages to suit the steamers when they came alongside, and that they could put the stages on the deck of the vessel on the level, is not that so?—I have no knowledge of that.

1529. It belongs to the local authority to do that, I suppose?—No. Speaking again of the local authority under the Contagious Diseases (Animals) Act, they have no control.

1530. Who has? It is clearly not the shipowners?—I do not know what authority in Glasgow has that power at all. I should think the harbour regulations would be bound to take notice of that.

1531. But at all events it is not done in Glasgow?—I am not aware of it in Glasgow.

1532. You have no floating stages of that character?—It is not within my knowledge.

1533. Then I understood you to recommend strongly the goad or spur in preference to sticks?—Yes, provided that the goad is not sharpened too much.

1534. (Mr. P. Smith.) As I understand, you are here as representing the Market Trust and the local authority?—Yes.

1535. You are suggesting these things as a practical man, but in doing so you are speaking the mind of those bodies as well?—The question has been considered by both bodies, and I am here to speak their minds.

1536. Have you as a Market Trust or local authority any power over Irish beasts until they get into that market?—None in the world as far as I know.

1537. You have no right to interfere?—Cruelty to animals is a police offence.

1538. You never act under the Prevention of Cruelty to Animals Act?—Not as a local authority, but we encourage the Prevention of Cruelty to Animals Association.

1539. But you never act as a local authority yourselves?—No, we do not.

1540. Then you spoke of the Broomielaw—you have often animals landed on the Broomielaw?—Yes.

1541. It is a tolerable scene of confusion there, is it not?—Yes.

1542. There is very little room for landing?—Quite so.

1543. The beasts are taken out amongst cargoes and sorted there?—Yes.

1544. And the beasts suffer a good deal in the course of landing and after they get on the quay?—Yes, I expect they do.

1545. But you state that a place to receive cattle might be set up on the Broomielaw?—I see the extreme difficulty of it immediately at the Broomielaw, but north of the Broomielaw a place might be had which might be common to all cattle.

1546. The Broomielaw is about as crowded as it can be, is it not?—I am speaking of the north side, and it is as crowded as it can be.

1547. You propose a sliding breast?—It would be a facility and an improvement.

1548. Do not you think it would be a very serious matter to meet the case in that way?—Very serious as far as the Broomielaw is concerned.

1549. Do not you think that the Clyde Trust would object to it?—Yes; when we call upon them to do so they would object probably.

1550. You have got the landing place at Shieldhall, is that under your charge as a Market Trust?—No, but as a local authority it is.

1551. There you have all the facilities at different stages of the tides?—Yes.

1552. Would you like to land the Irish beasts there?—It is far away.

1553. Could not they land there and have the refreshment and then walk up to Duke Street?—We have so many complaints from the Burgh of Govan at present

and they wish to keep cattle off the streets if it could be avoided.

1554. They complain of the Canadian cattle?—Yes, and the danger that it leads to.

1555. You think that would be a serious matter—the danger that would come from Irish cattle walking through the streets?—The Burgh of Govan would complain of it, at all events.

1556. But otherwise all the arrangements at Shieldhall are at present doing nothing at all?—Shieldhall has only been licensed for the last three days as a port for the landing of sheep from the States, and we feel that still Shieldhall will be used for the landing of Canadian cattle.

1557. But meantime, Shieldhall is there as a place that fulfils all the requirements for landing cattle?—Shieldhall is practically idle just now.

The witness withdrew.

Mr. JOHN LEISHMAN called and examined.

1558. (Chairman.) You are a member of the firm of A. Leishman and Son, of Glasgow, are you not?—Yes.

1559. And you are a wholesale and retail flesher?—Yes.

1560. You have been 30 years in the business?—Yes.

1561. And your firm is a very old one?—I am the third generation in the firm.

1562. You are the president of the Glasgow United Fleshers' Society?—I am.

1563. And you are giving evidence on their behalf?—Yes.

1564. You have heard what Baillie Brechin has said about the deterioration of the Irish cattle by the effects of the sea transit?—I have.

1565. How far do you corroborate that?—Pretty nearly in bulk, but there are some little points in which I differ.

1566. Well, what is the average deterioration that these Irish cattle sustain?—About 3s. a cwt.

1567. What would that be per beast?—A beast of from 5 cwt. to 7 cwt. would go from 15s. to 21s. That I put down to where cattle appear to be perfectly well carried, you understand; that is what you call a discount for suspicion.

1568. Well, you have to add to that the deterioration of cattle that did not appear to have been well carried—cattle that were evidently injured?—That might run from 5 to 50 per cent.

1569. Would there be many of those?—A butcher in Glasgow was telling me of a circumstance that occurred a few weeks ago; he bought 18 cattle at 16l. a beast for the wholesale trade, and they were good value at the price; and if they had not been bruised he would have got a profit of 9l.; but as the bullocks were severely bruised the account on the 18 cattle worked out to a loss of 44l. out of pocket, so that he was 53l. short on 18 cattle.

1570. These were cattle that appeared to be well carried?—Yes.

1571. Do many cases of cattle come under your notice where they do not appear to be all right, where they are evidently considerably injured?—That does occur. You can see where it is a bad case; it is evident before slaughter.

1572. The bruises are much greater in the case of long voyages, as from Sligo and Waterford and Cork, than they are from Dublin?—I think the best cattle from Ireland are from Derry and Belfast, and the others might be put in a bunch, such as Dublin, Waterford, Cork, and Sligo.

1573. Of course you are aware that a certain amount of damage is caused by the land journey in Ireland before being put on board?—But I believe that will be a small proportion of the whole; I think the bulk of the damage is owing to their being put on board ship and taken off ship.

1574. Have you ever been through the slaughter-houses at Dublin?—Yes.

1575. Have you seen the same class of bruises there?—No, I have not seen a bruised beast there.

1576. But you have seen Irish cattle in the market, and you have seen them slaughtered in Glasgow?—Yes.

1577. Comparing the cattle in the Dublin slaughter-houses with the state in which beasts arrive in Glasgow, would you say that the more serious amount of damage is done in crossing the sea?—There is no doubt about that.

1578. You are for the adoption in the Irish cattle ships of the same precautions as are used in the Canadian ships?—Well, they could do without food when the voyage is only for 12 hours, but they might have water.

1579. What size of stall would you say should be used?—I say that cattle should be stalled in four, on the same principle as in the American ships; that is to say, for a big full-grown fat cattle, but if you are going to deal with lean cattle, one- or two-year-old cattle, six or eight might be put in a small space, and they would be quite as safe.

1580. You think that they should be littered with straw?—I do not think cattle are safe under any circumstances without litter; it makes the tumbling down much softer, and it makes the rising up much easier.

1581. What do you say about the feeding with water on board?—Where the voyage would be for 12 or 14 hours, I would say that in the case of cattle which are fed before shipment, that feeding on board is not absolutely necessary, although I think a water supply would be beneficial.

1582. You make a suggestion that cattle should be sorted into sizes for shipment?—Yes.

1583. Would you explain your reasons for making that suggestion?—The reason is that if you put a bunch of cattle together, when they come to get jammed up in a storm, the smaller animals are knocked down by the larger ones, and they do not get a chance of rising.

1584. You would grade the cattle?—Yes; one, two, or three year olds.

1585. Then you say that you think there are not enough attendants with the cattle?—I think the attendants on board the Irish steamers, so far as I have seen, are quite sufficient in what is called a very good passage, but in a stormy passage they are not sufficient, and they expect to get assistance from the cattlemen who come with the cattle, but if these latter are not experienced sailors they are very often so sick that they are no good to anyone. I have known of a man of my own on board ship for two days and he has never seen the cattle.

1586. Do you buy the cattle?—We have bought a few in Ireland, but I have bought a good deal in the Highlands, and in Skye, and the Orkneys.

1587. Have you experience of the transit of Scotch cattle by sea?—Yes.

1588. What is your experience with respect to them?—Our numbers are not so large in the west country boats, on which they come principally on deck, and they are never short of ventilation, and they do not get knocked about to the same extent. A very big load of cattle would be 40 or 50, and coming principally on deck they do not require the same amount of provision made for them.

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1589. Are these Highland cattle much deteriorated by their position?—They are like other cattle; if they get a bad passage of course they suffer, but the pure Highland cattle are very hardy, and stand more knocking about than a Shorthorn, because they are thicker in the hide, and shorter in the legs.

1590. But they would be subject to the same amount of bruising?—No, their hide being so much thicker, and the fact that they come in smaller numbers, helps them. The great deterioration I have seen is when there are 300 or 400 cattle on board; but there is not so much damage done when there are 20 or 40 cattle as there is in the larger numbers.

1591. How do you account for that; is it from the overcrowding?—It is like this: You are safe carrying so many cattle together in any given space, but if you make that number greater, even supposing you had a corresponding space, still your safety has been removed.

1592. Then when you have bought cattle in Ireland you have had a man travelling with them?—I have not bought many cattle myself, and my own came in charge of the steamer's man. I have bought cattle in Skye, and I had my own man, but he was so sick that he never saw the cattle from the time that he left till he got into Glasgow. Then I really do not count that it is any protection to cattle to have the dealer's man; I think, as a rule, you may call him a man with the cattle, but in practice he is no good.

1593. You attach importance to provisions for ventilation?—Yes, very much.

1594. You think that is insufficient?—I think so.

1595. Have you recently gone to see the debarkation of United States cattle?—Yes.

1596. Did your experience there suggest any improvements about the Irish cattle?—Yes; it suggested to me that it was a splendid example to the people engaged in the Irish trade, if they would only look at it, because the cattle were in stalls of four; they had a very comfortable bed of litter, and they were well watered, and they came out of the stalls quite fresh, much fresher than they are arriving from Dublin or Cork. But, you see, they were allowed a space of 2 ft. 8 in. by 8 ft. for each of the four bullocks.

1597. There is very minute inspection in New York, you say?—Yes; I was talking to the mate of the "Scotia," and they had introduced a new ventilation funnel down below, and the inspector took off a bullock for that space because of 2 ft. of funnel, and where they had carrying space for 75 they were only allowed to carry 74.

1598. Do you know the rule upon that point on which the bullock was cut off, or was it arbitrarily done on the part of the inspector?—The people on the ship had nothing to say to it; in fact they need not say anything, it is all in the hands of the inspector.

1599. Do you think that the shipowners in this country should be placed so absolutely in the hands of the inspector?—If the demands of the inspector are reasonable I do not know why they should object; if the demands of the inspector were unreasonable then there should be some court of appeal.

1600. What is the average import of Irish cattle into Glasgow?—I put it down at from 1,500 to 1,600 a week, but I have learned since from statistics that in 1892, which is the last date, there were—store cattle, 80,000; cows, 5,000; calves, 12,000; fat bullocks, 23,000; making a total of from 120,000 to 130,000 cattle for 1892.

1601. You have told us that the depreciation allowed for by the butchers in Glasgow was about 3s. a hundred-weight?—Yes.

1602. You say after a severe storm the losses in many cases run from 5 to 50 per cent. ?—Yes.

1603. Have you any example to give us?—I have seen an example of a total loss of all excepting the hide. I have seen bullocks carried from the boats, and there was nothing else but the hides of any value; that is, of course, in the severest of times.

1604. We were told that there were a couple of hundred in Glasgow?—But I have seen the same thing less or more during the last thirty years.

1605. What did you refer to when you spoke of a loss of 50 per cent. ?—If a 20L bullock was badly damaged it would amount to that easy enough.

1606. You mean in the individual case, not whole shipments of beasts?—You might put it in the whole shipments, or reduce it into individual bullocks.

1607. I want to know your meaning?—Well, take an individual bullock, because it comes to the same thing; you say 10 bullocks in a year, or a month, or a week; take a bullock 20L, and if it is all right, if that is slaughtered on behalf of the proprietor, and the inspector looked at this animal and found the fore-quarters were badly bruised, and that they could not be offered for sale, he would take off all the bruised part of the animal, and possibly leave some part of the hind-quarters, or part of the fore-quarters, if it was not too badly bruised to be sold for food. Take that as a 7 cwt. or 6 cwt. beast coming all right, but after dressing off the extreme bruised portions it might be reduced to 3 cwt., and the price, instead of being 6d., as it would have been otherwise, would be reduced to 4d. a pound, and in that case you have fully 50 per cent. loss.

1608. What is done with this bruised meat?—It is sold to the smaller shops who wish to have it, and very possibly to the sausage manufacturers. But that meat is not by any means unsound. There is no disease about it, and if the extremely bruised portions are cut off, it is supplied for those purposes.

1609. What is your opinion upon the subject of feeding cattle after leaving the ship?—I think the Clyde Trust should provide a landing-stage and sorting pens where a shipload of cattle coming off during the night might be mixed, and they could not be separated until daylight, when each man could be there and draw off his own animals. At present it is done at the Broomielaw or at the railway station in daylight; if the cattle come in mixed it is impossible to draw them when it is dark, and that has to be deferred until next morning. If they had a landing-stage for all Irish cattle, and sorting pens there, that drawing could take place immediately on landing, or a few hours afterwards; that would clear away a great deal of annoyance to the general business of the Broomielaw; the cattle interfere with the general traffic of the Broomielaw, and the general traffic annoys the cattle. They do not seem to be workable together.

1610. How do you do the sorting in the case of a cargo arriving at night?—They do not keep them on board; they run them up to the railway station, or to the cattle market, and sort them in daylight.

1611. At the abattoir—at the slaughter house in Glasgow, is there any provision made in the way of watering or feeding?—In the slaughter house; that is, after the cattle has become the butcher's property?

1612. Yes?—We have water pens at the slaughter house; the bullock has water before him all day, and they are allowed to keep them two days, but a butcher will not keep them more than two days at the most. It is a mere matter of circumstance, and he wants to kill them to-day or to-morrow, and he might keep them a couple of days longer.

1613. I asked Baillie Brechin as to the custom in Glasgow of giving or not giving animals food or water within 24 hours, what have you to say with reference to that?—My experience is that if I was bringing cattle out of a byre or feeding shed full, if those were to be killed to-morrow, I should like to take them off the food for a night.

1614. In the case of Irish cattle?—I should not like to kill Irish cattle the day I bought them. I should feed them on water for two or three days.

1615. How long do you generally keep them?—Two or three or four days.

1616. Is that the custom?—Most people like to rest them for three days. The fleshers like to rest the Irish bullocks for two or three days because he improves a little by it; the flesh comes more to colour.

1617. And that three days' rest and feeding, is that part of the deterioration?—That is part of the deterioration.

1618. What is the general custom of driving bullocks in Glasgow, is it by the goad or the stick?—A little of the goad, as you call it, but not so very much.

1619. There is no police regulation on the subject?—I think there is. I think the Cruelty to Animals people have been against the goad. I think they have some convictions upon that.

1620. There have been convictions, do you say?—I would not state that as a fact. I am rather of that opinion.

1621. (*Mr. P. Smith.*) Are you sure of a conviction against the goad by the Cruelty to Animals Association?—Yes.

1622. Is it not elsewhere?—I do not know. I know they were against it. I am rather inclined to think they tried, it at any rate.

1623. Of course these extra precautions mean extra cost of freight?—Yes.

1624. But you think the extra value of the beast would more than cover the extra cost to the trade?—Clearly.

1625. You heard the evidence about landing at the Broomielaw; do you agree with Baillie Brechin's evidence?—Very much.

1626. There is no question about it?—There is no question about it.

1627. You propose a place north of the Broomielaw?—Yes, because the railways are all on that side. The south side is not so suitable.

1628. Would not it be too expensive to buy a place there?—Land is very dear there.

1629. What do you think about Shieldhall as a landing-place?—I think the landing would do admirably, but there may be other considerations. The place would do well for plenty of room.

1630. You do not speak the views of the people of Govan?—No.

1631. But so far as the trade is concerned, you do not see that there would be any inconvenience by landing there?—I think there would be less inconvenience than there is at present, and that it would be better for the cattle and perhaps merely, say, a couple of miles to drive them; but if you got them properly landed that would be a set off against that.

1632. You say you bring a great many beasts from Skye and the Orkneys?—Yes.

1633. Do you ever hear any complaints of that traffic?—Not particularly, but the number there is so small that it is quite a different business altogether.

1634. The beasts are a great deal lighter?—They are lighter cattle and the Highland cattle are hardier cattle, and their strong hide helps them.

1635. (*Mr. Cullen.*) I think you said that the cattle coming from Derry and Belfast come in better order than those from Dublin?—That is my observation.

1636. Do not you think that it is on account of the cattle being of a lighter character than those that come from Dublin and from the richer parts of the country?—I do not know. Perhaps it might be that the Dublin cattle may have travelled further to Dublin. Dublin cattle in many cases have a long journey to Dublin before they get sold there.

1637. As a matter of fact my experience is that these cattle coming from Derry and Belfast are very much lighter, and that might account for it. There are fewer coming and they are less crowded, and the steamers are smaller?—I think that the shorter journey is not so choppy and stormy as the Derry and Belfast. The Belfast steamers would be as good as any we have.

1638. For cattle?—I think so.

1639. Is it generally thought with you that small screw steamers of that class are as good as paddle steamers?—I do not think that the Belfast steamers are small screw steamers, I think they are mostly paddle steamers. I think the Derry are screw steamers. I am not very sure, but I am inclined to think that the Belfast steamers are pretty large; the Derry ones are smaller.

1640. You say that the Highland cattle are much harder?—Yes.

1641. But speaking of Shorthorn cattle bred in Scotland, is the flesh of the Shorthorns fed in Scotland any better than the flesh of Irish Shorthorns fed in Ireland, both being equally well carried?—We always consider the Scotch a point better than the Irish.

1642. But you have a great number of Shorthorns bred in Scotland?—Well, to begin with, we do not get Irish cattle in Scotland perhaps in their prime. They have always deteriorated a certain amount by the

journey, no matter how it was done. That will be always so.

1643. But naturally there is no reason why they are?—I do not say that they are much worse.

1644. In fact there is no difference?—There should not be any.

1645. But when you come to the Highland Scots and the Polled Angus, they are different?—Yes.

1646. There is no reason why those Polled Angus and Highland Scots fed in Ireland and carried well should not be just as good beef as the Scotch cattle?—I do not think the Polled Angus, for instance—I have seen it—has done well in Ireland. I have never been satisfied with the Irish Polled Angus when I kill them.

1647. Was that on account of the want of food?—It was always deficient in something. He was a bit short of himself all through. An Irish Shorthorn is a much better bullock than an Irish Polled Angus so far as I have seen them come to Scotland. We may not have had the best of them.

1648. From your experience, what would you recommend as an improvement to prevent this deterioration of the Irish cattle?—A fixed space, litter, and food.

1649. You say nothing about care?—Yes, and care.

1650. Would you improve the gangways?—Yes.

1651. Would you put the responsibility upon the shipowners of providing qualified men?—Yes.

1652. Would you have the steamers under the control of the Board of Trade or some authority who would understand what would be sufficient dimensions of space for cattle, and the proper construction of ships for the carrying of cattle, as it is in the American trade?—I would not venture upon fixing the authority, but I would venture upon saying that we ought to have an authority.

1653. But you would like a competent authority?—Clearly.

1654. That is what I meant?—Yes, but I would not venture upon saying who is to be the authority.

1655. And this authority should be one competent to deal with the question?—Yes, thoroughly, to deal with the question.

1656. And with power to act?—Yes.

1657. To deal with the question of ventilation, for instance?—Yes, and space, and litter, and food.

1658. And also as to the inclination of the stages going down into the hold?—I think the gangway question is a very important question.

1659. And all qualified men in charge?—Yes.

1660. You heard the evidence of Baillie Brechin that 180 cattle landed dead. Have you any knowledge of the cattle landed in Glasgow from America?—Yes.

1661. Do you know how many cattle in proportion were landed dead during the year 1893 from America?—I should think I would be quite safe in saying it was under 1,000.

1662. Could you tell us how many were landed there, so that we might see from the Americans how we compare?—I have not got the statistics of that; but it is a mere trifle.

1663. It is a mere trifle compared with that?—Yes; it is scarcely up to what you might call the natural expectation of accident.

1664. From the result of what you saw you think that it is quite possible to put the carriage of Irish cattle upon as good a footing as the American cattle?—I think so.

1665. (*Mr. Booth.*) You were saying with regard to the attendants that there is no good in having attendants coming with cattle, you want to have the attendants belonging to the steamer?—You cannot count upon them standing a sea voyage, however willing they might be.

1666. Therefore you want the attendants to be in the employ of the steamers?—Yes.

1667. And under the orders of the captain?—Yes.

1668. And that there should be a certain number always?—They should be increased in winter.

1669. When it is bad weather; but in any case sufficient, I presume, from what you have said, to give water in case of need?—Yes.

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1670. Have you any idea as to how many beasts a man ought to attend to?—That would depend upon how the fittings were carried out.

1671. It would be more than a couple of men on one boat?—One to 100 or thereabouts; that is to say, that 400 cattle should be fairly well attended by four men.

1672. You would have an arrangement, so that there should be alleyways for the men to pass from end to end of the boat?—Yes.

1673. That would be part of the necessary arrangements in order to get those men to do their duty?—That is how it is in the American trade. Their heads are together both sides of the alleyways, and the food and the water come up the middle.

1674. The number of men is fixed at 1 to 25?—Yes.

1675. But the feeding and watering require more attention?—That is full-feeding; and they have got to make provision for a man being sick.

1676. With regard to the boats coming into Glasgow, are you aware that any provision is made for food or water?—I am not aware of any food or water arrangements.

1677. Your impression is that there are none?—None in the general sense of the word.

1678. What do you say with regard to the Cork boats; which is the longest voyage?—I have shipped sheep myself there, and I sent a little hay. I should supply a ship with a little hay.

1679. Your general impression is that there is no food or water given on the Irish boats?—Except perhaps in the case of the Cork boats; I would not be surprised if there is some little provision, but I am not aware.

1680. (Mr. Watson.) You say that you do not quite agree with Baillie Brechin as to the loss by deterioration to Irish cattle. He puts it higher than you do?—Yes.

1681. You put it at 15s. per head?—That depends upon the weight of the bullock; with an 8 cwt. bullock, which is rather an exceptional weight, you pretty nearly get it up to that. He puts it on the weight of a bullock, which is rather ambiguous.

1682. But he named 4s. per cwt., and you name 3s. per cwt. I want to know whether the whole 3s. is due to the voyage, or to the Irish beasts being inferior to Scotch beasts at the start?—I should put it down, not on account of the natural inferiority, but to the deficiency in quality which it has suffered from the voyage; that is to say, that you may buy a very good Irish bullock at 22l., and if it were down in the hold, and there was not sufficient ventilation for 24 hours, he would cut up black in the flesh; and you cannot tell clearly the price in the best of weather, and I should put it down to the carriage. It would be 6s. per cwt. on the weight of the bullock roughly speaking; it would be a farthing per pound deterioration.

1683. Those cattle that you saw in Dublin market, had they come by a railway journey or were they Dublin cattle?—Some had come by railway and some had not, they had arrived the night before. I made that inquiry.

1684. What do you think that the damage on board, such as you describe there, is due to?—It is the entire absence of the necessary comfort and the entire absence of the necessary foothold in many cases, and also deficiency in ventilation. Those are really the elements from which the misfortune arises.

1685. Do you think that the owners of cattle would be willing to pay an additional price to get accommodation equal to the American accommodation?—I do not know that Irishmen would voluntarily rise their fares, but I would not care what they wanted.

1686. You would regard the question independently of that?—Yes, they might not want it, whilst it would be exactly for their own interests. I believe that part of the improvement we expect by bringing this law about would go back to Ireland; a large portion of it would go back to Ireland. It is purely an unselfish interest, because we cover ourselves.

1687. At present the loss does not fall upon you, but upon the owners?—Yes, we appear with no selfish interest, because we buy the cattle; and the only time we lose is when they are very badly damaged—when we do not make sufficient allowance for the loss on that account.

1688. And if you stop the cause of loss it does not occur?—That is the case with reference to the 180 animals; that falls upon the owners. Our interest is entirely in the interest of the Irish grazier and the Irish cattle dealer. The money that would be saved or made out of these cattle would go into the pockets of the owners of the land and of the cattle in Ireland, and raise their status in the British market, and we would have more comfort in dealing with them; we would be able to buy with more confidence that they suited our purpose.

1689. You put an extreme case of 50 per cent. loss on a bullock; does that occur often?—No, not often.

1690. That is rather an exception?—Oh yes, that is something after Baillie Brechin. I have no doubt 180 cattle would lose more than 50 per cent.

1691. As regards the landing accommodation, that is no fault of the steamship companies?—I do not suppose they have anything to do with it.

1692. That would be the Clyde Trust?—Yes.

1693. The steamship company would like to have the best accommodation?—Yes. I was talking to one of the steamship company's men the other day. What the steamship companies want to see is a landing-stage where all the cattle could be landed clear and not interfere with the traffic.

1694. That is not any fault of the steamship owners?—No.

1695. You mean it is the fault of the authorities?—Yes. Any remarks of mine are not to lay the fault upon any particular individuals, I only mean to get the fault rectified; it does not matter whose fault it is.

1696. As regards the litterage for cattle on board the steamer, are you aware that that is objected to both on account of the danger from fire and from the danger of carrying infection?—How do they get on in the Canadian and States steamers then?

1697. There is more room for moving about, and thus guarding against it?—I do not know that there is much more room. I was on board a States steamer where there were 170 horses, 450 cattle, and 500 sheep, and I can assure you that every animal had his allotted space, but there was no room left.

1698. Are they able, if they wish, to lie down?—Yes.

1699. You would not lay them down on board Irish steamers?—If you give them a stall of four, with the American space, I do not see why you should have any objection to lying down.

1700. What is the American space; 2 ft. 8 ins. by 8 ft. that you say; that cannot be right for each beast?—It is four in a stall; that is the space for each bullock.

1701. 2 ft. 8 ins. does not give a bullock room to lie down?—Yes, they will lie down very well.

1702. In a stall of 2 ft. 8 ins.?—It is a pen; four bullocks can lie down, and four big bullocks too.

1703. 2 ft. 8 ins. to each bullock?—Yes.

1704. Are you aware how the Irish cattle ships are at present inspected by the Board of Trade and surveyed by the Board of Trade for the Irish Privy Council, as regards their accommodation, to see that they comply with the law?—That is to say, with regard to space.

1705. With regard to everything—space, ventilation, and everything?—They are not expected to conform with regard to space.

1706. (Sir W. Kaye.) They are; the Privy Council has laid down a certain amount of space, and the officials of the Board of Trade are obliged to certify to that space?—I was talking to a steamship owner in Glasgow the other day, and he said that they had no limit to the number of cattle they were to carry; that is to say, they could carry as many as they liked.

1707. (Mr. Watson.) There is no number assigned?—What is the use of your space if it does not put in a space. Then I am right in my contention.

1708. (Sir W. Kaye.) It is to prevent overcrowding?—What is overcrowding?

1709. The overcrowding, according to that order, would be a very difficult matter to prove. I cannot see that your contention can be right except the space is allotted, so much space for so many bullocks, otherwise this question of overcrowding is the merest farce.

1710. (*Mr. Watson.*) I do not know whether you are aware that the Board of Trade, under the orders of the Privy Council, survey the ships to see if they are strictly in accordance with the law as to pens and everything connected with the ventilation; are you aware of that?—I am aware of that, but I am not aware in regard to space.

1711. The survey is as regards their legal requirements?—But still I do not know that they have got posted up what is sufficient ventilation, because in looking at a lot of Irish cattle they come out in such a state of perspiration that in many cases they lose their sight from ammoniacal blindness, and it would be quite impossible for anyone to argue that the ventilation was sufficient.

1712. (*Mr. Cullen.*) You said 4s. per cwt. was the deterioration of the Irish cattle; was that live weight or dead weight?—Beef I talk of as 3s.

1713. But Baillie Brechin said 4s. per cwt.?—I say 3s. per cwt. We never speak of live weights; we have not been educated up to the live weights yet.

1714. You have seen some cases of that ammoniacal blindness of cattle, which is the result of imperfect ventilation?—Yes.

1715. (*Sir W. Kaye.*) Have you purchased largely in Ireland?—Not very largely.

1716. Have you purchased outside Dublin?—No; my experience of the Irish cattle—I would not give any evidence as to my experience in Ireland—but my experience of the bullocks as I find them in Glasgow is when they come off the ships.

1717. What would you say of the cattle from the Belfast and Derry route?—They have always come best carried according to my observation.

1718. Does not this account for the suspicion?—You buy them with a little more freedom, but still you want them for less than a small bullock; you would want a little insurance, but less than in the other routes.

1719. Your evidence is really that in a sea passage there must be depreciation?—Of course a bullock is bound to suffer less or more under the more favourable circumstances. When the Canadian and United States cattle have been at sea for a couple of days they get their sea-sickness over, and they begin to feed.

1720. They could not do that on this short voyage?—But the States cattle after a couple of days begin to find the advantage of their food, and that is not being lost.

1721. You rest the Irish cattle when they land for a couple of days?—I would not like to buy Irish cattle and slaughter them the first day or the next day.

1722. But the Scotch cattle, they come by seaboard; what do you do with them?—We have almost none coming by seaboard to Glasgow.

1723. Are you aware that the Irish cattle before they are put on board ship at any of the Irish ports are examined by a veterinary surgeon?—I understand that is so for disease, and I understand that there is a great deal of farce about that too.

1724. It is done?—But there is a good deal of farce about it.

1725. You have been present?—Yes; both on this side and on the other side.

1726. Are they examined on arrival here?—No; but we have to get them examined. We send to Ireland a good deal—I sent to various butchers in Ireland both dead meat and live stock, and we have to get them inspected before they go on board, and I think that it is a pretty big farce, the whole affair—the veterinary inspection.

1727. It has in one respect worked well?—It has worked well for vets, I think.

1728. (*Chairman.*) There is one observation which you made a few minutes ago that I should like to ask a question about. You say you send a good deal of live stock to the Dublin butchers?—No; one or two customers in Belfast.

1729. What precautions have you taken for the depreciation of the stock?—We only put them on board; we are acting on commission; a man sends for 50 to 100 sheep, and our business is to buy them and put them on board. On the return voyage to Ireland you can get them sent with nearly the whole ship to themselves. There is a comparatively small trade.

1730. Therefore, the Belfast butchers do not make any allowance?—The time that they are buying our Scotch beasts gives them no choice; and ours are the nearest and the best sheep that they can get.

1731. You confine your evidence entirely to cattle; you have not said anything about sheep or pigs?—It is very much the same with regard to them.

1732. The damage is not at all so great?—A sheep in wool is very unlikely to become damaged; it has such a lot of wool upon it that that prevents the damage to a large extent, and one sheep falling against another does not damage it, although I have often seen sheep very much damaged too, and especially when they have come shortly after being clipped, when their skins are nearly bare.

1733. Do you buy any Irish sheep?—We would like to buy them.

1734. Is there any depreciation there?—It is something like the bullock; about a farthing per pound.

1735. Then, as to the pigs, what do you say?—I have not much experience in pigs, but there is a possible chance of failure of pigs.

1736. But there may not be as much damage to sheep, because sheep with wool on would not make such an impression when they fell upon each other?—At the time of the year when the sheep's skin is well grown, the damage is almost infinitesimal.

1737. At that time is there any discount? Take it at that time that you had a lot of Irish and Scotch sheep. A lot of Irish sheep, and a lot of Scotch sheep coming from the Highlands. Supposing the things were equal, weight and breed, would there be any difference in the meat?—The Irish sheep is scarcely so valuable as our Scotch sheep, because he is stronger in the bone, and he is drier in the flesh, having come this journey; and at this season of the year, when the sheep are full grown, if they come in the clipping-time I have seen them with their skins quite 1d. per pound damaged. But at this season we get none from Ireland; we are rather sending sheep to Ireland now.

1738. Sheep just recently shorn are prohibited from being carried, are they not?—That is so in England.

1739. You have nothing to say about ventilation for sheep?—They require ventilation.

1740. Have you experience of any injury to them?—I have had lots of sheep dying on board a steamer for want of ventilation, and the result of a storm too, in our own west coast steamers. The men there do not take charge of them; we take charge of them ourselves in the sheep boats, and if your man gets sick you get one or two dead sheep; but that is rather exceptional, and owing to stormy weather.

1741. (*Mr. P. Smith.*) You told Mr. Watson just now that the steamship owners were wishing for a floating stage?—Yes.

1742. That is what they have got at Liverpool?—Yes; that floating stage would come in, no doubt, as part of the landing-stage we are speaking of.

1743. Do you think in so narrow a river as the Clyde, and with such a harbour as Glasgow, that would be possible?—There would be some objection, but if you got it graded it would do if you had three cuts in the pier in three stages, one cut down 3 feet from the top, and 12 feet and 14 feet.

1744. Do you think that you would get the Clyde Trust to agree to cuts of that sort in the quay wall?—Then you would bridge that over. It would really not be any disadvantage to the quay. You would have these cuts at ferries, and they are bridged over, and they are really no disadvantage. The Clyde Trust might be a little conservative about cutting their quay.

1745. You suggested that instead of a floating stage?—I would have either the one or the other. Nothing could beat a floating stage, but in the event of the space not being wide enough for a floating stage, that would come in for the next move; but a landing-stage with a little sorting accommodation would obviate a great deal of the annoyance that goes on. It would take away the cattle annoyance from the general trade, and would be much better for all parties, I think.

1746. If there was room in the harbour of Glasgow to give it to you?—Yes. But supposing the sorting pens were 100 yards up off the quay, I do not see that it would matter anything. In some of these short streets, such as Clyde Street or Washington Street, the

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ground is much less than in the streets having a landing abutting on the river side. There is one thing I ought to add here; the reduction in the number of Irish fat cattle in Glasgow is caused in this way: the Glasgow people do not buy them at all in comparison to the manner in which they did, but the buyers are buyers from the country, who have not got the chance of buying the States or Canadian cattle, because they do not get leave to take them out, but only at certain

The witness withdrew.

seasons they can get Irish cattle, and they go into the inland districts.

1747. (Sir W. Kaye.) Is that store cattle?—No, fat cattle. Store cattle, of course, there are very few cattle within 10 miles; there is almost none. Store cattle go to Fife and Forfar and Perthshire and round that way.

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Mr. JAMES ANDREW KIRKWOOD called and examined.

1748. (Chairman.) You are a flesher in Glasgow, are you not?—Yes.

1749. And you are a past president of the United Fleshers' Society?—Yes.

1750. When you were president I understand that you and another member of the society went as a deputation to Dublin with reference to the transit of Irish cattle?—Yes.

1751. When you were in Ireland you had an opportunity of seeing how Irish cattle were conveyed by railway to Dublin and Belfast, and the system of trucking, and the manner in which the cattle were put on board the vessels?—We investigated all the railway stations beyond the North and South Wall, and presented a memorial to Sir William Kaye on that occasion.

1752. What opinion did you come to as to the cattle being damaged in transit by rail?—Well, we considered that the damage to cattle by rail was very small, although, at the same time, we saw very badly bruised carcasses in the abattoirs on that occasion. We were informed by the trade that it was a frequent occurrence for them to have damaged cattle.

1753. Comparing the cattle brought by rail to Dublin and slaughtered there with the Irish cattle brought by sea to Glasgow and slaughtered there, were the cattle slaughtered at Dublin much freer from bruises and damages?—Yes, distinctly. We found the loading banks at the railways in a very bad condition. The wearings up to the pens or to the entrances to the trucks were most defective.

1754. You found the trucks not very good?—They were quite primitive and without spring buffers.

1755. You travelled in the trucks?—Yes, but not to a very large extent.

1756. And you found that the gangways were defective?—Yes.

1757. Were these the gangways to the ships?—No, but to the trucks.

1758. You found, however, that the great cause of the deterioration was the injury sustained by the cattle in transit and in the ship?—Yes, those were the principal causes of damage to the cattle.

1759. As pertaining to sea transit, did you find the gangways of the steamers by which the cattle were shipped in Dublin or to the Irish boats defective?—Very defective. The principal defect arose from the fact that there were on the upper deck certain appliances, such as a steam winch at one end of the hold, and a man who attended to the apparatus; and, on the other hand, the cattle could not be shipped lengthways into the hold, but had to be shipped crossways. The gangways which were put down the hatchways were too steep, and the cattle, going through this narrow place instead of lengthways, they came in contact with the combings of the hatchways, and drew the flesh off their backs all along; whereas in the Atlantic steamers, where they have the same difficulties to contend with, they appear to be more ingenious, because in the place of putting their gangways right across amidships, across the narrow way of the hold, they would take it from the corner, and run it to the opposite corner, which allowed of the gangway being considerably longer, and made the angle at which it was down that hold of a less gradient.

1760. You spoke of gangways being frequently made up of old hogsheads, crates, and old boxes?—That is what we found at Dublin.

1761. And you state that proper fencing should certainly be employed as wearings to the loading gangways?—Yes. For instance, we visited the North Wall, and we found that no cattle were to leave that night, and

we went over to the South Wall, and we saw some cattle being put on the steamship "Prince of Wales," and the wearings to the gangways there were made up of two of those large loading planks that were put on board.

1762. When was this?—In 1889.

1763. In what season?—In the month of February.

1764. You mentioned that the American ships were more ingenious in the way of using the gangways?—Yes.

1765. Is there any difference in the structure of the cross-Channel boats which would prevent the adoption of the same principle as the American?—None. The holds are, as a rule, made in proportion to the size of the ships.

1766. You suggest that carrying steamers should be spaced off in divisions of 13 ft. by 8, to hold six fat bullocks, or eight medium-sized animals?—That is a suggestion which I presented to Sir William Kaye on the occasion of presenting that memorial.

1767. Then you make a suggestion as to the cross battening, so as to give the animals a proper foothold, and as to straw or other litter being provided?—Yes.

1768. You have heard the objections raised by Mr. Watson as to the straw litter; have you anything to say to his objection, as to its being compulsory, from the danger of fire, or the danger of carrying infection?—I do not say that there can be any more danger in a cross-Channel steamer than in an Atlantic steamer; they are all littered on the American liners; there are bundles of hay and straw taken in, and the whole place is littered.

1769. You say that if this were done, the cattle would not be allowed to fall and slide from one side of the vessel to the other; there would be no goring and trampling to death, and the sailors would have no excuse for cruelty in forcing cattle from one side of the vessel to the other to permit of the ship being trimmed. What do you refer to in that last remark?—What I refer to is that the pens are too large, and the cattle not being tied up by head-ropes, when the ship heels over, they are thrown to the scuppers, and in some cases the divisions between the pens, owing to the weather, give way, and for the purpose of trimming the ship, they must remove the upper one, and drive those cattle that have been thrown down to the scuppers; they must be put to the highest part of the ship for the purpose of trimming.

1770. Where did you hear of the sailors having to drive over the cattle?—I have seen them.

1771. When?—Repeatedly.

1772. That is without any breakage up of the partitions as at present constructed?—Yes, as at present constructed.

1773. You hold that as at present constructed the spaces are too big?—They are too large.

1774. Then you say, as to the ventilation, that you find it deficient and imperfect?—Yes.

1775. And that it is always dependent upon open hatchways, so that you say when the weather is a bit rough there is no ventilation?—It is practically cut off when the hatchways are shut up.

1776. But we were told by some witnesses that they were almost never shut except in very exceptional weather; do you speak of your own knowledge?—I speak of coming across in ships with large cargoes of cattle, and I have seen them frequently with the hatchways battened down. There was a certain amount of ventilation by cowls, and sometimes they put those iron cowls that turn round about by the hand, but I found in most cases these cowls were placed amidships, while the

forward and after parts were quite unprovided for; when the hatchways were shut the best source of ventilation was practically cut off.

1777. Do you consider that the number of attendants is deficient. You recommend that the shipowner should be obliged to provide a man thoroughly accustomed to the sea for every 100 cattle, and that suitable accommodation should be provided for these cattlemen by the companies?—That was one of the suggestions that I made to Sir William Kay on the occasion of visiting Dublin.

1778. The proposal has been made that cattlemen should be licensed; do you consider that necessary?—All the drovers attending our Glasgow market are licensed. There is no man allowed to handle cattle unless he has a badge on his arm.

1779. Who licenses him?—The Market Trust.

1780. Do they charge anything?—2s. 6d.

1781. Is that due for a year?—No; so long as he does not violate the conditions, it extends over a number of years, or as long as he does not violate the byelaws.

1782. Do you know of any cases in which that has been taken from him?—Yes.

1783. What for; cruelty and drunkenness?—They have been suspended for a time both for cruelty and drunkenness.

1784. Is there any penalty against men working who have no badge?—Yes, they are taken before the ordinary police magistrates; it is a police offence.

1785. According to your experience the shippers' men are seasick in rough weather?—As a rule they are. I have seen them very frequently. I have seen some shippers' men of very great use on board ships.

1786. Then you endorse the evidence of previous witnesses who say that food and water should be provided for the animals?—Yes; that was also one of the suggestions which I made five years ago.

1787. Another of your suggestions is, that regulations should be made as to the transit of Irish cattle to Great Britain, and that they should be carried out by the officers of the local authority; what do you mean exactly by that; what local authority?—The local authority of the port of debarkation, or the port of loading.

1788. But are they not carried out now?—I do not know who has the specific charge of carrying out these regulations.

1789. I suppose the Privy Council in Ireland, and the Board of Agriculture in Scotland and England?—In Dublin I might say I did not ask for it in the official quarters, but I got my evidence round the shipping. I did not make out who were the responsible parties there. I know that the inspections of cattle veterinarily were carried out by the orders of the Irish Privy Council.

1790. You spoke of enforcing rules and regulations by heavy penalties?—Yes.

1791. Is there any penalty at present that you consider insufficient, or would you impose new penalties?—I have seen some cases of captains of ships being brought before the court for cruelty, and perhaps fined 20s., a fine that, of course, was no fine at all to a wealthy steamship company or railway company.

1792. But that was under the provision for cruelty to animals?—Yes.

1793. Just one point here. You have stated in your letter to Sir William Kaye, but you did not put it in your recommendation to-day, that in the appointment of executive committees on local authorities it is quite within the spirit and meaning of the Act that practical men outside the municipal body can be elected to assist in the administration of the law. I point, as illustrating this more fully, to the fact that in Glasgow two practical fleshers have, for the last six years, been nominated to act with the local authority of Glasgow. Would you explain that?—I have a very strong opinion that where any particular trade is interested, that the parties to carry out those laws ought to be the practical men connected with that trade. I think it is no use, perhaps, to have a retired naval officer to carry out this without he has some practical experience to guide him along.

1794. But what is done in Glasgow; is it the local authority, or is it the market trust?—The local

authority and the market trust are two different bodies altogether.

1795. It was the local authority under the Contagious Diseases Act?—Yes, under the Contagious Diseases Act.

1796. And they have appointed two fleshers?—We asked for the direct representation of practical men upon that Board, which they would not consent to in the first instance. Then again, we got through our representatives the question raised in the town council, which was carried, and those two men of our number were elected to that body to act with the local authority of Glasgow in all matters pertaining to cattle, or slaughtering of cattle.

1797. Then I presume the members of your body who were appointed as members of this local authority were members of the town council?—No, they were outside of the town council altogether. They had nothing whatever to do with the town council. They are simply fleshers, and nominated by the fleshers, as the men that we consider fit and proper.

1798. They are not members of the local authority but work with them?—They work with them. They have no power of vote with regard to the expenditure of money in any shape. They were appointed merely, therefore, for the guidance of the local authority.

1799. Can you mention any improvements that have occurred by their inspection or the inspection of that society through that?—What caused the society to take up this position, or to ask for this representation upon the local body, was that we found the first wharf that was constructed was of such a character that it was not adapted to the trade at all, and we saw clearly that if we allowed them to go on on the lines that they were going, the trade was going to be hampered by high dues owing to the lavish expenditure, and then we found that it was not practical when carried out.

1800. You are speaking about the wharf. Whose property is the wharf? Is it the Clyde Trust's?—No, the local authority under the Contagious Diseases (Animals) Act.

1801. Did any other point arise you felt specially interested in?—Well, of course we wanted to have a little to say as to the amount of the dues or taxes that were to be placed upon the cattle. At first we found that they were very high, and we wanted to get these reduced.

1802. I wish to know, as you had made this recommendation in your letter to Sir William Kaye, whether it had anything to do with our inquiry. I hardly think it has?—Yes, it has; it bears upon it. We wanted to point out to the Irish Privy Council, if they could see their way to call in practical men to give them a little advice as to the transit and the mode of shipping cattle and they would benefit by it, so it has a direct bearing upon the matter under discussion just now.

1803. Did the Irish Privy Council take any action in consequence of that recommendation?—Not to my knowledge.

1804. (Sir W. Kaye.) If that communication was addressed to me, I asked you to write that letter to me?—In presenting the memorial—it was drawn up and signed, in fact, by about 600 or 700 of the trade in Glasgow—which I presented to you, and you said the statements set forth in the memorial were all general, and you asked me if I was prepared to give any suggestions to you at the time, and I said that if you would give me an hour or so I would be prepared to send in suggestions in writing, which I did.

1805. You made no other communications since that to us?—I say at the end of my communication that I would present a copy of this letter to my committee on my return to Scotland, which I did. It was discussed at the full meeting, and they said that I had covered all the points so satisfactorily to their mind that there was nothing further to communicate to you.

1806. Quite so, and that letter of 1889 was the last communication between the Privy Council in Ireland and your particular body?—Yes, so far as my knowledge goes.

1807. You have not been in Ireland since?—Yes, I have.

1808. Have you examined any of these railway loading stations?—No, I have not.

1809. Are you aware that the different suggestions which were made in your letter were directly conveyed

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to the different parties interested—the shipping companies and the railway companies that were dealt with in this letter?—Not to my knowledge.

1810. Of course not. Then you are not aware of the great improvement which has taken place, both in the construction of the loading-stages, and of the loading-banks, as you call them, and also with reference to those gangways?—On my last visit to Ireland, which was a year past, I found very little improvement with regard to the wearings to the gangways.

1811. When was that?—A year ago, or a little longer.

1812. Where was that?—At Dublin. At Belfast I found considerable improvement with regard to the Burns Company; I found that they had constructed wearings of a permanent character, but removable wearings.

1813. Are you aware that that was done at the instance of the Privy Council, of course, after your letter had been received?—Well, I was not aware that I considered, when I saw them, that it had been by the suggestions I have put before you.

1814. One of your suggestions is that the cattle should be all tied up?—Yes, I make an exception.

1815. I know you do; but even with that exception, is not it a question as to whether in that very short passage that all cattle should be tied up except those stripplins that you refer to?—I do not know that it is a divided question, so far as the people that I come in contact with are concerned, both the people in my own profession and cattle dealers.

1816. But you would not be surprised to hear of a very different opinion being expressed to yours?—You find people of different opinions on every matter that you choose to put before them.

1817. You suggest that the penalty should be enforced as to regulations?—Yes, either the present regulations or any regulations that might be formed.

1818. Are you aware that proceedings have been taken from time to time when it came to their knowledge that the regulations had been broken?—I have seen such prosecutions in the papers.

1819. (Mr. Watson.) When you paid this visit to Ireland, were you there for any length of time?—Eight days.

1820. Did you see many loads of cattle in the railway trucks and the steamers?—Well, I saw only one ship in Dublin on that occasion. We went and turned our attention, after seeing the bruised beef in the abattoirs, to the loading-banks, so that we did not see much of the shipping. We saw 240 cattle put on board the s.s. "Prince of Wales."

1821. Was she the only case that you saw of the shipping arrangement?—No, we saw a great many in Belfast.

1822. But I am speaking of Dublin?—In Dublin I had on previous occasions to that, and since, seen the arrangements at the loading gangways.

1823. When you speak of insufficient gangways being composed of hogsheds, crates, and old boxes, where did you see them?—You are not quite following me. The gangways to the ships were all that could be desired. In talking about the boxes and hogsheds and old crates, these were the articles that were set up to make a gangway leading to the ships.

1824. Where did you see that? Do you remember the companies where you saw that?—Not being in the position of thinking that I would be brought before such a Committee as this, I took no particular note of it.

1825. How long is it since you were in Ireland?—More than a year ago.

1826. Are you aware that in most cases there are proper funnel-shaped approaches with removable sides?—I did not see them in the ships I saw being loaded. I may tell you that the last ship I saw loaded in Dublin they had two of these long planks that go on board the ships. They had them set on hogsheds at the end of the gangway, and there were two sailors walking on the top of those boards and whacking the cattle with ropes' ends on board the ships as I had seen in years gone by.

1827. You say you had got the opinion in Dublin that very large damage had been done in railway transit, but your opinion is now that there is not very much damage from railway transit?—Yes.

1828. How did you form that opinion if the Dublin people think the other way. I am anxious to know, for I understood you said that in Dublin there was very considerable damage done on the railway transit of the country; but you think the damage was small?—The damage that we saw led us to believe that we had put the onus upon the wrong parties, and we went to these loading-banks and we found that the arrangements were not good.

1829. Why did you think that there was small damage done by rail when the arrangements were so bad?—They were not good, but the way we saw the cattle in the trucks we were not led to believe that there was much damage, unless it was after leaving loading-banks and going so many times backwards and forwards.

1830. You said that the gangways on the ships were everything that they should be, but you found fault with the approaches, that they were not what they should be?—Yes; of course at certain parts of the tide the gangway was everything that could be desired, but their positions were at different angles with variation of the tide.

1831. At low water they would be very steep?—Yes.

1832. On board the ship you said—I forget the expression you used—but you said loss was caused by steam winches and other appliances which prevented the cattle being entered lengthways?—Yes.

1833. Do you think it would be an improvement to have them lengthways instead of crossways?—I mean the approaches to the 'tween decks and the lower holds. All cattle must stand across ships—I have a strong opinion that it should not be legal for steamship companies to do otherwise—I have seen cattle, going to Barrow and Fleetwood and Liverpool, being shipped and tied up with their heads against the bulwarks, with their heads to the side of the ship. I would consider that an illegal act.

1834. You know why they are tied there; to get something substantial to tie them to and to ensure their safety?—Yes, but that can easily be provided for in the same way as in the transatlantic ships.

1835. Have you ever crossed in those vessels?—Yes.

1836. From what Irish ports?—Dublin, Belfast, Larne, and once from Derry.

1837. As regards the size of the pens, do I understand you rightly to say that a pen should be 13 ft. by 8 as a suitable pen for eight beasts?—It depends entirely upon the size of the beasts.

1838. Fat cattle you were speaking of?—Fat cattle; that would only hold six fat cattle.

1839. You think 13 ft. by 8 would hold six fat cattle?—Yes; that is from the fact of knowing that the American cattle were brought in such condition in 2 ft. 8. On the short passage from Ireland it is not necessary for cattle to lie down, and with 2 ft. 8, four bullocks can lie in a four bullock pen. We reduced that space by 6 inches, considering that 2 ft. 2 was quite sufficient for a fat bullock.

1840. Do you know the size of pen that is allowed at present by the Irish Privy Council?—No, I do not. I could speak to the size of the pens that I have seen on board the ships.

1841. What size are they?—I have seen them there all sizes, they vary according to their position in the vessel.

1842. They are not allowed beyond a certain length?—I have seen them 18 ft.

1843. I do not think any pens are allowed that length?—It depends entirely upon their position in the ship.

1844. As regards the ventilation, do you mean that it is only bad when the hatchways are shut or is there a deficiency when they are open; I do not follow you. You talk of the hatchways being shut; are they ever shut?—Yes.

1845. With cattle below?—Yes.

1846. Can you name an instance?—As I explained to you, these times are so remote I did not take the name of the ship.

1847. Do you mean it is a long time ago?—Yes. I have seen them shut 25 years ago.

1848. We have evidence here that they are never shut. I do not know whether that was the case 25

years ago. Our witnesses have not gone so far back?—I have seen them shut within a year.

1849. Within this last year?—In coming from Belfast with Armagh cattle to Fleetwood, I saw the hatchways shut and the cattle were below.

1850. You said they were shut with the least bad weather, and the evidence that we have had is that they were practically never shut?—I have seen them shut within a year; that is the only instance within my memory.

1851. That answers my question; it is an instance?—Yes.

1852. You said in Dublin you found a difficulty in getting information. Do you mean official information from carrying people?—I have a strong opinion that it is not good to seek too much official information.

1853. You did not ask for it?—I did not ask for it. I wanted to get my information from private sources.

1854. You spoke of a case of cruelty in which the captain of a vessel was prosecuted. Can you give me any instance where a captain of a vessel was prosecuted for cruelty to animals and fined?—I cannot point to any particular one. I remember one that occurred at Ardrossan, but it is a considerable number of years ago, and of that I have not taken any note.

1855. You have no recent case?—I have no recent case.

1856. Is that at Ardrossan, or is it a ship called Ardrossan?—At Ardrossan.

1857. But you have not got the particulars?—No, I forget the name, but there was a large mortality took place, and the captain made an endeavour to kill the cattle, and the Prevention of Cruelty to Animals people objected to the mode in which the cattle were being killed.

1858. (Mr. Booth.) As I understand the question put to you by the chairman, the recommendations that you made on that deputation to Ireland were made as far back as 1889?—1889.

1859. Supposing you had any recommendations to make now, would they be practically of the same character, or would they be weaker or stronger in any way than those you proposed in 1889?—They would be practically the same, with the exception that I would ask to reduce my pen space.

1860. Possibly by the experience you have had of the Atlantic trade since then, you are even strengthened in your opinion about the necessity of reducing the size of the pens, or reducing the number of cattle put into the pens?—If you reduce the pen space you reduce the number of cattle in the pen.

1861. With regard to the improvement that you have been asked about, which is said to have taken place in Ireland, do you see in the arrival of the beasts in Glasgow any improvement since 1889?—None whatever.

1862. Then you said that at Glasgow the cattle drovers in the market are all licensed?—They are all licensed.

1863. Does that include the men who meet the boat and drive the beasts to the market; are they licensed?—Yes.

1864. And they are subject to lose their licence through ill conduct?—Any misconduct.

1865. Is there any difficulty in the matter of granting licences to drovers in Glasgow?—Well, the present mode is that they are granted by the superintendent of markets. A drover man, in order to get a licence, requires his application to be backed up by perhaps three members of the trade who can speak as to his ability and good character generally.

1866. But you believe that this rule of granting a licence has tended to improve the character of the drovers?—It has stopped the whacking with the ashplant to a large extent.

1867. We heard something about the Society for the Prevention of Cruelty to Animals objecting to the use of the goad?—Only on one occasion, to my knowledge.

1868. Would that be the case of an unauthorised or unlicensed person?—They took exception to the goad the very first week that it was used in Glasgow.

1869. Possibly they have not the same opinion now?—They have not; if their opinion were asked now,

they would climb down and would encourage the goad as a proper mode of urging bullocks on.

1870. Were you asked about the small damage on the railways. I rather understood you to mean small damage relatively to the damage occurring in the boats. You were speaking of the comparative damage on the railway trucks, and afterwards the transit on the boats. You spoke of the damage previous to shipping being small, and you meant relatively small; not necessarily that there was little damage on the railway?—From what we saw on the loading banks there was not much damage done there. Of course I could easily see from the bullocks that I saw in Dublin when they were destroyed that these cattle had gone down in the truck and been trampled. We know trappings from stick marks, and rope marks, and we know damages arising from going against the sides of the ships and such like bruises.

1871. (Mr. Cullen.) Did I understand you to say rightly that since 1889 there were no improvements made in the landing of cattle in Glasgow or the shipping of Irish cattle?—Not to my knowledge.

1872. Who are the authorities that are responsible for that?—There is no authoritative body to have them in charge at all.

1873. There are none?—None.

1874. And there has been nothing done to facilitate the landing of Irish cattle in Glasgow all these years?—Nothing to my knowledge.

1875. Would you describe for me the way steamers go alongside. Is it by the side of the landing-stage?—There is no landing-stage; they only go to the side wharves and the usual places belonging to the steamship companies.

1876. Then at low water there is considerably more declivity going down on to a ship than at high water?—They have to climb almost perpendicularly up this gangway.

1877. And the same thing applies to Dublin?—Yes.

1878. And from some cause or other the Clyde Trust are unwilling or will not spend the money for doing it?—I could not say that the Clyde Trust are unwilling.

1879. But at all events they do not do it?—They do not do it because they never have been approached.

1880. Whether that arises from their being a little stingy or not you do not know, but for some reason or other they did not do it?—I do not think that stinginess could be laid to the Clyde Trust.

1881. But from that or some other cause?—I have an idea.

1882. They could not put a landing stage there without putting their hands in their pockets?—Not at all.

1883. They cannot do it without putting their hands into their pockets?—We can do nothing without money.

1884. It is no better in Glasgow than in Dublin, and they have the very same disabilities at Glasgow as they have at Dublin?—I think I have said that the proper parties are not at the head of affairs.

1885. Who are the responsible parties? You say the Clyde Trust have not the power, or do not do it from one cause or another?—They have the power, but they have never been asked.

1886. But at all events it has not been done?—No.

1887. There are 120,000 head of cattle landed in Glasgow every year, and there is no proper landing-stage?—You must not confound these figures with Glasgow.

1888. It is here in this report?—But you are to understand that Ardrossan comes under the head of Glasgow; that is considered in the Clyde, and in the various reports that I have seen, I have seen Ardrossan mentioned as Glasgow.

1889. So that probably the number that is landed there is less?—That 120,000 refers to Glasgow and Ardrossan.

1890. I have got it in an official return, and am very anxious to know if you gentlemen have done your duty up there?—I put before the Clyde Trust—perhaps following the memorial that I presented to the Irish Privy Council—the advisability of making breaks in the

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breasts of the quays—at the quays where the cattle were in the habit of coming. I wanted them to put a hole in the breast of the quay without any permanent gangway and fix it at a particular place, and it would be covered over at the top, and to carry that up and make a turning in it so as to bring the turning on to the shore where the back of the shed or opening would be surrounded with a proper hand-rail and fences, to prevent anyone falling down it.

1891. And your evidence is, that notwithstanding that reasonable suggestion they were impervious to it and left it undone?—I did not approach the chairman of the Clyde Trust in an official capacity.

1892. But, at all events, nothing has been done?—Nothing has been done.

1893. Generally, do you corroborate the views of Mr Leishman and Baillie Brechin with regard to the Irish cattle, generally, coming in in a damaged state?—Yes.

1894. And, secondly, that a number of these animals are blinded from ammonia, or volatile ammonia, in the holds of vessels, on account of the deficient ventilation?—I have seen them blind on the main deck from ammoniacal blindness, and on the upper deck also.

1895. That is the same thing; well, I understand that you corroborate their views with regard to resting and reducing the number of cattle in each of the pens, speaking generally?—Speaking generally, I perhaps could not follow Baillie Brechin in his suggestion. I consider that the time in the ship is too long.

1896. I am not talking about the detention but only the size of the pens?—I say I would climb down there. I asked for 13 ft. by 8, and now I would ask for a smaller pen from the experience that I have had in the interval.

1897. That is confirming their view; their view is the same?—Yes.

1898. Speaking about bringing these Irish cattle in a safe condition, what would be your suggestion as to arriving at that desirable end; would you put that responsibility on the carriers?—On the carriers, provided that they were to be recouped. Now they charge 7s. per head where the responsibility is taken upon the consigner himself, and when the company takes the responsibility the charge is 7s. 9d.

1899. Yes, but of course you would not limit the contracting power of anybody?—Nothing at all.

1900. With regard to the qualification of a ship to carry cattle, would you have an inspection of steamers by a competent authority?—Distinctly, and without that you need not frame any regulations for the transit of cattle at all.

1901. Do you agree with Mr. Leishman about the 180 cattle that were landed dead, that if they had happened to be on an American steamer, according to the statistics returned, very few of them would have died, his idea being that the Irish cattle might be put in just as good a condition as the American cattle trade?—I quite concur with Mr. Leishman. We found in sending from Glasgow it is under one per cent. If we go to the Beaver Line it is about a quarter per cent. of the mortality in transit, but we cannot as reasonable men put the Transatlantic traffic on all fours with the cross-Channel traffic. Our ships in the cross-Channel traffic are small and they consequently pitch and roll, whereas in the large American liners coming with the Atlantic roll and swell they only roll, and that is the difficulty where I say that the footholds ought to be battened and cross battened, because where the ship is pitching the animal requires a foothold over a rolling ship, and the battens are put fore and aft. If the ship is rolling they have got a foothold, but where there is pitching as well you want it both ways.

1902. That is precisely the point to elucidate. It is about seven or eight years ago since the regulations were put in force in the Atlantic trade?—Yes.

1903. And before then the destruction of American cattle was such that the insurance was seven or eight per cent., and it is now one or one and a half per cent., and that was in consequence of the regulation by

which the cattle traffic was improved?—Yes; and it was carried out by a responsible body.

1904. And you, up at Glasgow, or rather the Clyde Trust, when the improvement began for the American cattle, stopped doing anything for the American cattle, and the arrangements in Glasgow are just as they were in 1886; is not that so?—That arose from the fact that we had been knocking at those doors for such a number of years. I have been at this Irish cattle transit business for seven years, and I have not got one step further than where I was at the beginning.

1905. (Mr. P. Smith.) In the harbour of Glasgow you have got to do with other things besides Irish cattle?—Yes.

1906. With other much larger interests?—Yes.

1907. And you do not think that it would be reasonable to make the Clyde Trust do anything that would interfere with the general rules of the harbour for the sake of the trade in cattle?—No. That is the reason I suggest the holes being cut in the breast of the wall, because the river is narrow, and we cannot interfere with the general traffic in putting up pontoons as on the Mersey, where they have plenty of seaway and room.

1908. That is your solution of the problem, if you accept this statement of the problem that it is to find a way of landing cattle with better treatment without interfering with the general rates of the harbour for all the purposes that it has to subserve?—That is our idea.

1909. But it is not a question of the stinginess of the Clyde Trust at all?—No.

1910. But you consider that what you ask is consistent with the use of the harbour for other purposes?—Entirely. We want some responsible body to ask the Clyde Trust to carry out any improvements that should be wanted.

1911. You heard my question put to Mr. Leishman about Broomielaw and Shieldhall?—Yes.

1912. Do you agree with what Mr. Leishman said?—Well, of course I consider that Shieldhall is considerably too far away, and on the wrong side of the river to be of any very great advantage to the trade in getting the cattle there.

1913. Would you rather have a suitable wharf on the north side and close up?—Yes.

1914. But if the difficulties and the expense connected with that were very great, would you regard Shield Hall as being better than the present arrangement?—It would be the next best.

1915. Better than the present arrangement?—Better than the present arrangement.

1916. (Major Tennant.) You mentioned, I think, that you would propose to materially reduce the size of the pens?—Yes.

1917. Have you made up your mind what size you would now reduce them to?—Yes; I would ask for not more than four bullocks in one pen.

1918. But the animals sent from Ireland are of different ages and different sizes?—Yes.

1919. Would you always have four animals in each pen, quite irrespective of the size?—I may say in drafting some suggestions to Sir William Kaye five years ago, that I put a specification there. I quite agree with the former witnesses that cattle ought to be graded, say one, two, and three year old. In the suggestions to Sir William Kaye I say that all cattle ought to be tied up with head ropes, except wanned calves and stirks. These I would ship in bulk in those small pens if there was a responsible body to see that there was no overcrowding in these small pens, but I would make these small pens about 8 ft. 8 in. by 8 ft. so as to allow a rather large-sized fat bullock to have 2 ft. 2 in. space. I asked, five years ago, that the pens should be reduced from the size they were then to 13 ft. by 8, but from the experience that has been gained in the interval, I now think that the pen space should go down to about 8 ft. 8 in. by 8 ft.

The witness withdrew.

Adjourned to to-morrow at 12 o'clock.

FOURTH DAY.

At No. 7, Whitehall Place, S.W.

Wednesday, 4th April 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B., Q.C.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.

Mr. INGRAM B. WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Mr. JOHN BOOTH called and examined.

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1920. (*Chairman.*) You are from Douglas, in the Isle of Man, are you not?—Yes.

1921. You are a butcher and cattle dealer, and have been in business for 30 years?—Yes.

1922. And during that time you have been constantly in the cross-channel trade, buying both fat and store cattle in Dublin, and various other places in Ireland and Isle of Man?—Yes.

1923. You have exported them from Ireland to some of the principal markets in Great Britain and the Isle of Man?—Yes.

1924. I see you are also President of the Isle of Man Butchers' Association, and Vice-President of the National Federation of Butchers?—Yes.

1925. You have made a special study of this matter, and I see you have before you portable cattle fittings which you have provisionally patented?—Yes.

1926. Will you explain your plan to the Committee?—Yes.

1927. Have you got a model?—Yes, and a tracing of the fittings.

1928. What is this intended to perform?—I will explain it. Under the present system, in carrying cattle in channel boats, they are all tied to the bulwarks of the ship. The consequence is, as I need not tell you, that in the finest of weather, with the ship loaded with three holds of cattle, the ship is continually on the move, no matter what kind of weather it is. The consequence is that these animals get their heads battered on the bulwarks, and with the least motion of the ship the poor animals get their heads injured, the whole journey occupying from 12 to 24 hours.

1929. What do you suggest as a remedy for that?—What I suggest is that the animals should be reversed, and I have provided on the bulwarks of the ship, two india-rubber pads, that will be lined with springs, so that in the case of a beast rolling back, it cannot destroy itself on these india-rubber pads. The head will be reversed into this alleyway (*pointing to the same*), which is provided for the accommodation of the men to walk backwards and forwards through this alleyway. There will be another division, so that the cattle can be either fed or watered. The present system is, that supposing there are ten pens holding eight cattle each down the bulwarks of the ship, it would contain 80 bullocks. The bullock on the top pen gets down; the men in charge have to scramble over the backs of the cattle to get up here (*pointing*); there is no means of shifting that bullock until it reaches its destination, and 79 bullocks have to come out, and the animal is left to be trodden and trampled to death and destroyed. If it does not get destroyed entirely, its meat is useless for commercial purposes. I have provided two different modes for tying the cattle. One is with a strap and chain. A Glasgow friend has brought me a bullock to put into this model, but it is hardly a suitable one. This strap and chain works up and down. Under that system, one bullock cannot horn or disfigure his neighbour, and in case of fine weather, or a long passage, the bullock could be fed, and there will be accommodation for laying him down. Under this other system for shorter journeys, many of my Irish friends

think this is the best mode. There are three different sizes of these stocks. The small size I propose to paint red, and the medium size white, and the large size black, so that any bullock-man or sailor that has charge of these cattle, can get the bullock put in this small stock by selecting the red, and if he wants a larger size, he can take a white or black. He has only to select the colour, and he would not have to try half-a-dozen different stocks to suit the animal. These pens would be of exactly one size, and one stock would fit every pen on the ship. Then again we have under the present system, in fact, I believe it is very wide, a provision laid down by the Board of Trade that a pen is to be 9 feet by 15 feet. There are to be two battens going fore and aft the ship, 3 feet apart. Now in case you have a bullock, no matter whether his head is that way or this way, and there are only two battens going fore and aft, if that bullock leans against the fore batten with the fore feet on the batten for the hind feet and he slips, he is bound to go down. These battens only provide for the rolling of the ship. Now if you had a ship the same as I have seen them, coming out of Dublin with a south-east wind, the wind blowing a gale from the south-east, and the ship lifting in going across the bar, you would have the ship pitching and rolling, and when the ship is pitching, there is nothing to prevent the cattle moving the other way and all going down. I have provided these fore and aft battens, and battens across—thwartships—so that the battens will be exactly one foot apart, and no matter whether the ship rolls or pitches, it will be comparatively impossible for an animal to fall down.

1930. Those pens are divided?—The animals go in this way; these are what are called the shifting boards (*describing*). Should I wish to put two bullocks in a stall and tie them up I put the shifting boards in and the animal is shut off, and I propose to only carry two bullocks in a stall instead of carrying as many as they can get in.

1931. Have you made any computation as to the cost of this apparatus?—I am not a ship's carpenter, but I am a butcher and cattle dealer, and I have not gone exactly into the cost of this; but I spoke to a gentleman who is connected with the shipping interest in Liverpool, and merely by a bird's-eye view, in looking at this model, he told me that I might confidently say that the expense would not be 50 per cent. more.

1932. How long have you had this plan worked out?—I have been working at it for years. My idea has always been that the animals stood the wrong way.

1933. How long is it since you have had it perfected?—Only within the last few days; about a fortnight ago. I had it over in Ireland before the Committee in Ireland, for the Irish cattle traders to see.

1934. What did they say about it?—They were unanimously of opinion that it was the very thing to be adopted.

1935. How do you mean to fit it up? Supposing you had a lot of the largest cattle, would you get them in sideways?—They all go in sideways.

1936. And then you put in the shifting boards afterwards?—Yes.

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1937. Do you propose to have any arrangements for feeding and watering?—Merely to save expense. With reference to fittings, I may tell you I have suggested that they should be portable fittings, and be of such a nature that they can be put together by any ordinary sailor, or bullock man, or unskilled labourer, and they can be stowed away in the ships and the decks could be used when not carrying cattle. I have provided also a pipe that runs on the top of the pen which has holes perforated in it to supply a forced draught in case of bad weather, and in case of the wind running aft the ship. We find that in cattle coming from Ireland in ships with three holds, if the wind is running aft the ship, and there is nothing but a windsail driving the wind into the ship, that the cattle become almost suffocated; in fact it is past bearing for a man to be down the hold, and the smell of ammonia from the cattle and from one thing and another is something very bad indeed, in fact I could not fully describe to you how bad it is. You have to go through it to really know how bad it is.

1938. Is there any provision for watering the cattle?—The provision for watering the cattle would have to be carried by hand. I have not found it convenient to find water fittings.

1939. But with the alleyways there would be no difficulty in watering?—There would be no difficulty in watering, and there would be no difficulty in the men getting to the cattle. What I should like to suggest while I am here is this; that on each deck on any cattle carrying vessel there should be one special pen marked off, and should be called the hospital pen. That pen should be figured with the hospital cross, and should be kept specially for the purpose of a beast that has been calving, or has been injured in any way on the sea. Under this system a beast getting down, or a leg broken, or getting any mischief at all, it would be quite possible to use that hospital; all that you would have to do would be to take that beast board out, and the bullock man would drive her out of the alleyway to this hospital pen situated at the most comfortable part of the ship.

1940. And you propose to have one of those on each deck?—One on each deck. I think I told you under the present system, if an animal got down in a pen, the way that these boats are loaded, he has to stop there to be trampled to death, or left to the end of the journey before he can be removed.

1941. You say half the ships are well provided; what of the other half?—There are some ships that are better provided than others. In the case of the "Blackrock" there is no provision made at all. It is impossible; they are all packed like herrings. The opposition boats carry the cattle for less money. They go into Dublin Market and they tout for traffic. They perhaps have a ship that will carry 400 cattle; they go into the market and meet different dealing men, and when the cattle come down for shipment they find they have 500 instead of 400, and the consequence is, that before the first 10 cattle put in ship they begin to cram that 10 cattle up in order to find room for the extra 100. There is nothing provided at all, as to what space the bullock shall have; it is just as many as you can get in. What I wanted to define is this, that in an ordinary cattle boat coming from Ireland, the space should be 2 feet 4 inches for each bullock.

1942. Would you be in favour of grading cattle according to their size?—It would be impossible for you to make pens grading the cattle, and I will show you why. I ship my own cattle, and the cattle that I send to England, I ship principally by the City of Dublin Steamship Company, and the Drogheda Company. If I go down there as a shipper to Dublin on a market day to load my cattle, they say, "What cattle have you got, Mr. Rooth?" and I reply that I have got 50, or 60, or 100, or whatever I may have. "Well," then, you go down into the hold this week, you go "into the bottom; you were on the main deck last week." Therefore I cannot have my cattle, which cost me 20*l.* apiece, placed on the lower deck, whereas a man whose beasts have only cost 10*l.* apiece will get his turn on the deck. That is the only way it is regulated. They cannot manage these cattle-men by giving them any preference at all. I think Mr. Cullen knows something about that. There would be great ructions amongst the men if one man got a preference to any particular part of the ship.

1943. Is there any extra charge made for the better accommodation?—The city of Dublin charges 7*s.* at the

owners' risk, and 7*s.* 9*d.* at the company's risk; that is covering the insurance up to 15*l.* a head for cattle, for all cattle that walk ashore. The insurance is only for cattle that cannot walk off the boat; if you have a bullock, no matter how badly jammed he may be, or however he may dress, his body may be totally unfit for commercial purposes; but still you have to take that bullock.

1944. That is not what I asked. Do any company say whether you shall have the main deck or the hold; does it depend upon how much you pay? Could you get it by paying a higher price?—No, these opposition boats that carry at 3*s.* or 3*s.* 6*d.* a beast, of course they do not give the same accommodation as the City of Dublin which charges 7*s.* I prefer my cattle going by the City of Dublin Steam Packet Company, owing to the boats being paddle boats.

1945. That is to say, you know that in one line or in certain lines the overcrowding is so great as to inflict danger on the cattle, and you are willing to pay 3*s.* a head over and above what it is on the other boats?—Certainly.

1946. You mentioned the "Blackrock"; you were an eye-witness of the arrival and disembarking of the cattle on that occasion, did you not?—Yes.

1947. Have you any remarks to make about the disembarkation. I think you said they were very much overcrowded?—Yes, and in this particular case the "Blackrock" had more cattle on board than she should have had. In fact, those people will put them in any hole or corner of the ship, or in any position on deck; they will tie them to the water-closet door, or anywhere where they think they can get a bullock fastened.

1948. Have you anything to say as to the disembarking that struck you?—Yes—

1949. We have had evidence about that and unless you have anything very special we need not trouble you?—The fittings were very indifferent, and it has been said that the "Blackrock" accident was through the steering gear giving way.

1950. Unless you have some positive knowledge, we have had evidence already from a Board of Trade surveyor, but you can go on?—There were a lot of temporary fittings in this ship, and there were different corners rigged up by boards lashed together to make accommodation for more cattle than what they had got proper pens for, and those pens were used every day; the consequence was that this ship having got into bad weather, and being very narrow (she stands a great height out of the water), and she had three tiers of cattle in her, she rolled over, having been struck by a tremendous sea, and she lies over on the side and the steering gear gives way and she fills herself with water, and the cattle fittings give way, and some cattle come on the top of others, and the greater portion of the cattle that were lost were drowned.

1951. Were those cattle which walked ashore in a bad condition?—In a very bad condition.

1952. Have you any idea as to what they fetched?—From what I gathered from Mr. Carter, who was the principal owner of the cattle, he told me on Saturday that his loss on that occasion at sea was something over 2,000*l.*, and the cattle that were not killed, or died before they got to their destination at Oldham, were of very little value for commercial purposes.

1953. Then in your proof you make certain recommendations in connexion with the requirements of the trade: will you briefly state what they are?—I am of opinion that the requirements of the trade demand, first, suitable accommodation at the port of loading where cattle can be fed and watered prior to being put on board the steamer, and also suitable accommodation for receiving them at the port of landing. That is the first part of it.

1954. Will you read your recommendations and then we will ask you about them afterwards?—Secondly, the appointment of practical men to superintend the loading and discharging of cattle steamers. Thirdly, the adoption of cattle fittings such as I submit here in this model (*pointing to the same*). Fourthly, all cattle freights from Ireland to include an insurance rate. Fifthly, that at least four men should be employed by the steamship owners to take charge of the cattle during the voyage and the whole responsibility for the safe carriage of the animals should rest with the captain and officers from the time the cattle are put on

board the steamer until their discharge; and, sixthly, that all vessels employed in the Irish cattle trade should be fitted up with electric light, as it is usual for all vessels to run in the night, or at any rate the great bulk of them.

1955. Are those all your recommendations?—Yes.

1956. Have you anything to say about the accommodation for debarkation of cattle at Douglas, in the Isle of Man?—The debarkation accommodation for cattle at the Isle of Man is very much better than it is in the port of Liverpool; we are only getting a very few cattle landed there in 12 months.

1957. We have had a good deal of evidence as to the necessity at all events for further facilities for unloading in Liverpool, would you generally agree with that?—Yes. I should like to call the attention of the Committee first to the loading of cattle in Dublin. Most of the steamship companies have yards provided for the cattle, and pen accommodation, but the greater portion of the cattle are exposed to both the heat and the weather; they are not covered in. Within the last few months most of the companies have lit up the yards by the electric light and given very great facilities for examining cattle lately. The pens in the City of Dublin yard are remarkably good, but there is no accommodation for tying the cattle. Those cattle come down, perhaps, 100 miles by rail, or 15 or 20 miles by rail, they are put into those pens and stand for hours waiting to be loaded in the ship. If you give them hay one is knocking and poking at the other, and, probably, trampling the hay under its feet until it is comparatively useless. The floors, I may also say, by some regulation or another are done with concrete. My idea is that the pens should be as near as we can possibly get them in the same proportion as on my model's deck; they should be set with ordinary granite sets and grafted in with concrete so that the animals would not slip about this granite the same as on concrete. In fact, in Liverpool the Cheshire Lines Committee have taken up all their pens and are laying them down with granite sets as they have had so many complaints of cattle slipping and breaking their thigh veins. This is a matter requiring very strict looking into, those cattle pens in Dublin, or wherever cattle is shipped for the accommodation of the cattle. If a portion of the yard of the City of Dublin Company could be covered in and these cattle could be tied up and supplied with hay and water and allow the company to make some reasonable charge for the same, I do not think that any man with humanity, having any thought or feeling for his cattle, would refuse to pay some small sum for that accommodation.

1958.—At what markets do you buy the cattle?—Principally in Dublin. I go to fairs like Mullingar and Ballina for that purpose.

1959. Take Mullingar; supposing you take cattle, what would be the cost of their voyage, we will say for food and water? Will they have been recently fed and watered when you bought them?—I could not tell you. Supposing I was in Mullingar Fair and I bought 50 cattle, and I wanted those cattle to get to a particular market, I would get them sent away as early as possible and sent away, perhaps, by special train to Dublin, to get the steamer that night. If they got to Dublin in time to feed and water they are fed and watered.

1960. But in many cases they would not get anything until they got to Dublin?—They would not get anything until they got to Dublin, but if they get there in time I make it a rule that my cattle are fed before going on board; my animals would be fed and watered before loading, but in 19 cases out of 20 cattle are shipped without being fed.

1961. How long would it take you to get from Mullingar?—It would vary. If you get a through cattle, special, a train that is running through absolutely from Mullingar to Dublin, you might get through, I should think, in three hours.

1962. From the time that you buy the cattle to the time that you are in Dublin that might pretty well be six or eight hours?—Yes; the consequence is that you have a pinch to catch the boat.

1963. When you get a boat it would take another hour to load them, would it not?—But they have to be examined by the veterinary inspector.

1964. That would take how much longer?—That takes time; there are certain forms to be filled up. You may calculate from the time that the cattle

arrive in the cattle docks in Dublin to the time that they are put on board the steamer that it will take two hours.

1965. That will leave about 8 or 10 hours?—Yes.

1966. And then the cross-channel passage to Liverpool is 12 hours?—About 12 hours in fine weather. Of course, it depends upon the weather; it varies from 10 up to 24 hours.

1967. If you were lucky in catching connexions it would mean practically that the cattle would be close on 24 hours in transit?—That is about it; they might not have anything for a day; they might have come some distance.

1968. And then, when they are landed in Liverpool, they would be some little time too?—As a rule; if I have cattle running to London or Norwich, I feed them and water them in Liverpool before we load. We generally rest them. As a rule we generally have specials going out about 3 or 4 o'clock in the afternoon, and if the cattle arrive at 7 or 8 o'clock in the morning we rest them until 3 or 4 o'clock in the afternoon. Other men, who are anxious to get them away, do not care about feeding them and they load them to go by the special to Norwich without food or water.

1969. Then it might easily happen that an animal might be 36 or 48 hours before getting to Liverpool?—I have known cases.

1970. Have you known cases where that was added to any extent on this side before being rushed on?—I have known 24 hours being occupied betwixt Liverpool and Norwich.

1971. Do you happen to know any cases of prolonged starvation of cattle and prolonged deprivation of water?—Yes; I have a case in point. Two years since last Christmas I think it was the "Leitrim"—I could not swear to the boat, but it was one of the City of Dublin boats—was very many hours at sea, detained by a fog, and the cattle in that boat missed the markets; the consequence was that in the way the cattle were loaded under the existing regulations in arranging for shipping cattle, they could neither be fed nor watered on the journey. But I suggest, and what the trade suggest is, that by following up this idea, the animal can be both fed and watered; it would only require a regulation by the Board of Trade that a certain space should be allotted in the ship for those alley-ways, and also certain tank accommodation for carrying fresh water.

1972. You told us that in Dublin the pens are so constructed that very often the cattle get loose; how do you manage to feed your animals?—My animals are principally fed in Liverpool, and I send them to a shed that there is there, between the landing of the cattle and the departure of the cattle. My cattle are booked through the Great Northern Railway Company, and I send them to Macrae's sheds; they perhaps arrive about 7 o'clock in the morning, and I leave them there till about 3 o'clock in the afternoon, and I pay 2d. per head for the cattle tying-up, and I find my own hay. I prefer that to putting them loose in pens.

1973. Do you feed them in Dublin?—When I possibly can.

1974. How many men have you to feed the cattle?—I have one man who specially crosses with my cattle; whether I have him fully employed or not I pay him for the week—as a standing man—he merely receives the cattle in Ireland and delivers them to the railway companies in Liverpool, or whatever port he is going to.

1975. He is all the attendance that you provide, no matter how many cattle you have?—Yes, no matter how many cattle I have. I may say that there are thousands of cattle crossing without an attendant at all.

1976. (Sir W. Kaye.) What description of material do you propose that these portable cattle fittings should be made of?—Hard wood and iron.

1977. Would your apparatus reduce the carrying power of the vessel, or would you be able to take the same number of cattle as you do at present?—The shipping company would lose one beast in seven. I have calculated roughly about that; in place of carrying seven bullocks they would be only able to carry six bullocks.

Mr. J. Roeth.

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1978. When you spoke about 50 per cent. extra you meant that it would be that extra cost to fit the vessel. I understood you to say that according to the present arrangement, if the ship were fitted according to your arrangement the cost would be 50 per cent. more?—Yes.

1979. That would add to the cost considerably?—Well, the Cattle Trade Association of Ireland is agitating at the present time to get the insurance rate for all cattle made compulsory; they say that all cattle should be insured so that better accommodation and better protection should be given to the cattle. Mr. Carter and several of the large shippers suggested to me that if the shipping companies gave an insurance rate and fitted up their vessels with this or some other appliance adapted in this style, we would be prepared to give 1s. per head more for the carriage of the cattle, because the loss of cattle through injury would be almost reduced to a minimum; that shilling per head for the fittings of the ship would pay itself in 12 months.

1980. Are you in favour of the insurance system?—I am in favour of the insurance system.

1981. To what extent would you have the insurance made; at present you say the insurance only extends to the cattle which are not able to walk out of the vessel on to the shore?—That is one thing that we want defining.

1982. You have not quite made up your mind upon that?—We have made up our minds that if the beast is damaged we expect to get paid for it. We do not want this walking ashore business to come in. We can show a case where we got a lot of cattle damaged and no man breathing could tell that the beasts were damaged; they might be damaged and still walk ashore. Take, for instance, the "Blackrock," her build is very narrow, she has three holds, these cattle come on the first deck and go down the stair or alley-way, something like this (*describing*), and the poor brutes have to walk down into the next hold; when they get there there is another alley-way just about the same pitch to get into the lower hold. Here is the hatch *here*, and the hatch-combings are narrow athwart ship and along fore and aft the ship; the consequence is that these bullocks come down *here* (*describing*), and if they are anything like large animals they are scraping their backs, and the men are twisting their tails to get them into this particular place, and the best of the beef is destroyed on the bullocks; but they walk ashore in that damaged state; but to all intents and purposes for commercial purposes they are damaged and we do not get anything for it.

1983. If an animal was treated in that way it would be easy to see how the injury was caused; but supposing you have animals that you know nothing about when landed, you would not know until they were slaughtered?—But with these animals you would not see anything wrong.

1984. Who would be responsible for them, the railway company, or the shipowner, or who?—There is no chance on the railway for an animal to get damaged on its back in the way I have described.

1985. Do you think that in the case of an animal slaughtered and showing some signs of injury, you could tell whether it was done on board ship or otherwise?—I should have a good idea from the marks on the back of the animal or elsewhere where the injury had been got.

1986. When you were estimating this 50 per cent. as the cost of this re-arrangement of yours, what class of man did you speak to?—I saw a ship's carpenter.

1987. Did you explain to him that in addition to the arrangement there, there should be a hospital pen?—I did.

1988. When you were buying in the Irish market for England I presume you had generally some particular market in view that you were buying the cattle for?—Yes.

1989. In that state of things would there not be a difficulty in having all the cattle on their arrival in Dublin tied up?—I did not say that all the cattle arriving in Dublin should be tied up. I do not go that length at all, because there are a certain portion of the cattle, and only a very small portion of the cattle that come to market that are dishorned. I am greatly in favour of dishorning. I consider that there is a great amount of cruelty and inhumanity created amongst

cattle by one beast goring another with its horns. If there could be some arrangement, for instance, a method of simply painting a calf's horn at the time when it is some few weeks old with some kind of creosote or caustic that stops the horn from growing, that would do. If it could be done with a calf at a few weeks old it would prevent a great deal of cruelty to the beast hereafter. Where you have dishorned animals you will find they stand as quiet as a lot of lambs, you have no goring, or crushed meat.

1990. The tying up in Dublin would only apply to horned animals, I presume?—Yes.

1991. Would you be in favour generally of the dishorning process?—Certainly.

1992. You think that there would be less cruelty to the animal?—I am sure every practical man in the trade will tell you the same thing.

1993. You always have a practical man in charge of your cattle on board the ship?—Yes.

1994. Would you have this man to form part of the ship's crew?—Yes.

1995. Would you have the drovers that bring the cattle to the ship's side licensed?—Yes; certainly there are a lot of men in the cattle trade who simply carry a stick, and the more they use it the better they like it. The licensed men would be only men of good repute and good character.

1996. How many men do you think it would require to look after the cattle on board ship, supposing a cargo of 400 animals?—If the ship was fitted up on this principle of mine, and fitted up also with the electric light, and supposing the ship has got two decks for cattle, the main deck and the 'tween decks, what I suggest is that there should be one man on duty on the fore part of the deck and a man on duty on the after part of the deck, two men on each deck. You would require four men on a two-decked ship. These men would walk about the alley-ways, and with a good electric light they could see if anything was going wrong, and if there was a beast that had fallen, or anything like that, they could get to it and attend to it immediately. But under the present circumstances, where they have got 10 or more cattle, or from 8 to 12 cattle in a pen in bad weather, it is as much as the man's life is worth to try to get beasts up when the ship is rolling about.

1997. Were you present when the "Blackrock" arrived?—Yes, I was at the landing stage at Liverpool. I had a lot of dead cattle.

1998. I think you saw that the steering gear was out of order there—that it was broken?—They had a jury rudder temporarily rigged after the accident.

1999. There was an accident to the steering gear, was there not?—Yes, the steering gear gave way.

2000. (*Mr. Watson.*) With reference to your views on the subject of insurance, what do you say is covered at present by the insurance rate; you talk about the cattle walking ashore but is that a universal rule?—Well, I think you know. Of course, in case of total loss from animals dying or getting killed on board the steamer it is all right. Now I hope the result of the inquiry of this Committee will be that some arrangement will be made which will last for many years to come, and that there should be something defined as to how any damage that occurred to a beast could be estimated and the responsibility thrown on the proper party; supposing I ship a lot of bullocks by the City of Dublin Company's boats, and I have a beast landed very badly disabled but able to walk to the lairage or the slaughter house, I got that animal killed; it might have cost me 15*l.*, but when it hangs up in the slaughter-house in Liverpool it will only be worth 10*l.*, owing to the damages on the road. I think that the steam packet companies would know whether a man was telling the truth, if he said that a beast had cost him so much, and the measure of the value of the animal could be settled.

2001. In the case of a beast which shows manifest signs of injury on landing, whether it walked or not, is it not paid for at present?—It does not appear so.

2002. In answer to Sir William Kaye, you spoke of invisible damage which was only discovered afterwards, but that is a different thing to damage that is visible?—Any beast that I have had that has been able to walk ashore, or any beast belonging to any other man, we

always have to take the cattle no matter how bad the outer appearance was.

2003. When shipped at the company's risk?—Yes.

2004. Do you generally ship at the owner's risk?—At the company's risk.

2005. And your idea is that it should cover all damage that happened on board ship?—Yes.

2006. That is visible damage?—Visible damage.

2007. You are not speaking of invisible damage?—No.

2008. As regards the damage to the backs of cattle, where they are injured on board ship, is that a common thing?—In the case of a narrow ship where the staircase which the beasts have to go down is very steep, a small animal may get under and miss these hatchways, but a large bullock would be damaged; the latter might cost 27*l.* and the former 7*l.*

2009. You mean where there is no height for the beasts to pass?—There is no proper height for the animal to pass and they force him down and damage him.

2010. Does that happen very often?—Very often, in this class of boat.

2011. But does it happen in the case of your own cattle?—No, in the case of my own cattle I have more sense to put them into such a boat.

2012. You are speaking of particular ships?—Yes; if you put the gangway lengthway of the hatchways—the nautical term is fore and aft—instead of athwartship.

2013. In your special system of fittings, do you include the india-rubber and spring pads in your cost. I am afraid they would be very costly?—I do include them; they would not be costly. This india-rubber I propose to have an inch thick and it would be india-rubber composition. What I understand is that the product that it is made from is lime, tar, and sulphur, and it would require no disinfecting, it would only require washing, and it would not require any liming.

2014. I am afraid it would be costly. Is it your opinion that dealers and others would pay the additional cost?—I may say that Mr. Carter and several of the other principal dealers and shippers out of Ireland are prepared, if there are fittings of this kind, to pay the additional cost.

2015. Then, you know, many dealers are very fond of cheap rates?—I do, and the consequence is bruised beef.

2016. As regards this apparatus of yours, do you take into consideration that these boats are used for cargo as well as for cattle?—Yes.

2017. How would you stow the apparatus away when it was not used for cattle?—All that you would have to do would be to run a few planks on the deck.

2018. They could not run over your battens?—But they could be so placed that it would be better for the cargo.

2019. But as regards tying you are aware that the beasts are always tied to a ring in the ship's side to secure a very strong attachment; would your fittings be strong enough to tie them safely to?—Yes, the reason why cattle are tied to the side of the ship, is because there is no other place to tie them, that is under the present system.

2020. Do you think that your fittings would be strong enough to tie cattle to?—Certainly. I may say that several of our last steamers that carry cattle to the Isle of Man are fitted partially on this system through my recommendation. There are no india-rubber pads—the boats so fitted are the "Peveril," the "Fenella" and the "Ellen Vannin." They take cattle from Liverpool to Douglas and Ramsey.

2021. Not from Ireland?—No.

2022. What is the width of the alley way?—This alley way here, according to this model, is 3 feet 6 inches, but in that 3 feet 6 inches there will be the animal's head coming out about a foot on each side, so that you are only giving away about 18 inches.

2023. Do you mean that the pens are proportionately short?—No.

2024. I want to ask you with reference to the loss of space; you say that there will be a loss of one beast in

seven, do you count the alley way?—Yes, with the alley way counted in.

2025. As regards the electric light, do you consider the electric light an advantage?—Certainly. You see, with the lamps swinging to and fro they get broken and destroyed on a bad night, and the light goes out, and the men can see nothing.

2026. Do you consider that the better light you have in the hold the better it would be for the animals?—Certainly. I do not say that you want a very powerful lamp, merely small incandescent lamps distributed all over the ship, not one big powerful lamp to glare on the animal's eyes.

2027. Why do you think that paddle boats are the best for cattle?—Well, in the case of screw boats we do not get sufficient beam, everything in connexion with a cattle-carrying ship depends upon having plenty of beam. I understand that the City of Dublin have a new cattle boat that will have from 35 to 36 feet beam; she ought to be a splendid cattle-carrying ship if they could see their way clear to adopt some fittings of this kind, I should be prepared to fit up her deck myself for a trial.

2028. You spoke of having practical men to superintend the loading and landing?—Yes.

2029. Are there not such men at present employed at that work?—These men are, as a rule, master stevedores; they do not only attend to cattle, but everything that comes the ship. What I want is a man that has served a good apprenticeship amongst cattle, and he would know when a beast was cruelly ill-treated, and when they ought to be fed, and how they ought to be handled.

2030. That is during the voyage, but I am speaking of landing and embarking?—I am speaking both of landing and embarking and handling of cattle on the journey.

2031. As regards the flooring of the pens, which do you consider best, brick floors or granite floors?—Well, I may say that I am a director of our abattoirs, which were built by the Butchers' Abattoir Company, and we got somewhere in Staffordshire a stable brick with which we fitted up our lairages; these stable bricks and concrete form the floors, and the difference in the accommodation they give in allowing the beast to lie down and get up is marvellous; there is no slipping or slurring or straining from the spreading of the legs that we see in ordinary cases. If the pens are fitted up at the railway stations and steamboat yards, on the same principle, we should have considerably less bruised beef than we have at the present time.

2032. Have you had much experience of the land traffic in Ireland?—Yes, I have been knocking about in Ireland for something like 30 years.

2033. Is there any injury caused to the animals in the land transit?—I am sure that the loading banks are very much improved within the last few years. I think that the Cattle Association has worked wonders in that respect in bringing this matter before the railway companies, and getting the loading banks improved. There is a great deal of improvement now as compared with what it was three, four, or five years ago, still I am not going to say that they are all perfect.

2034. (Mr. Booth.) You were speaking of the different rates between the different steam ship lines from Dublin, and that a man is willing to pay 7*s.* for the accommodation that he gets from the City of Dublin Steam Packet Company as against perhaps 4*s.* for what he can get from another line?—Yes.

2035. Does not that 3*s.* difference mean that you are willing to give for the increased accommodation the difference between the two existing lines?—Yes.

2036. Is that not a considerable margin that a man is willing to pay for increased accommodation?—Yes.

2037. And you think that the shilling extra that you estimate your apparatus would cost would be paid for the sake of getting better accommodation for the cattle?—Yes. There is just one point: there are between 600,000 and 700,000 cattle shipped from Ireland every year, and I really do believe conscientiously that you may value these cattle at 1*l.* a beast less in any market in Great Britain, when men come to buy them they fight shy of the Irish cattle; they are afraid of bruises and knocks. When store cattle go to Norwich Hill they give very much less for them for feeding purposes, because they

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always expect to lose one or two beasts that have been crushed inwardly on the journey from Ireland.

2038. We have had a good deal of evidence to that effect, you probably would agree with it?—I do.

2039. I was merely asking you to see whether this 3s. which is the difference between the different lines is paid for the better accommodation that one line gives over another?—Yes.

2040. And your improved accommodation you would consider a still greater improvement than anything that exists, probably between the different lines at the present time?—Yes.

2041. Therefore, there is a margin to work upon for the increased freight?—Yes.

2042. That would enable the shipper to pay an increased freight?—Yes.

2043. Then, with regard to your plan, I do not quite understand the length of your pen there?—This is the way of it—that (*describing*) is 7 feet.

2044. But the existing pen is 9 feet, and you make this 7 feet, and therefore there is a margin for the alley ways?—Yes; because the heads project over the side, and you do not give the cattle too much room.

2045. And your width is 2 feet 4 inches?—The width on this system is 2 feet 4 inches, and for these animals where the chain is it is 2 feet 8 inches.

2046. What is the width for two beasts?—These two are 2 feet 4 inches (*pointing to the model*).

2047. Yes. For each of the two beasts?—For holding the two beasts.

2048. I mean the width of the pen?—For each animal under that system I allow 2 feet 8 inches; but each animal under this system has 2 feet 4 inches.

2049. Two feet 8 inches on the one system, and something less on the other?—Two feet 4 inches for the others.

2050. The larger space is to enable them to lie down?—Yes; in this case they would have to stand (*pointing*).

2051. You were speaking about the feeding and watering at Dublin, and at the landing stage, and you said that 19 out of 20 did not get fed or watered at all. When you say this you mean that it is not the usual thing to feed and water them at Dublin previous to shipment?—That is so.

2052. And the arrangements in Dublin are such, as a rule, that beasts do not get fed and watered?—There is no accommodation for putting the cattle up.

2053. Then, with regard to the arrangement that you make at Liverpool of sending them to a special shed for feeding, is that done by other people as well?—Yes, a great many; when they are sending to London or other long distances have them put up as I have.

2054. Would you say that the greater part of the cattle that are going some distance get fed and watered at the stations in Liverpool?—There is a portion of them that get fed and a portion of them that get watered, but the accommodation in Liverpool is the worst that I know of in any part of the United Kingdom. There is only one trough a few feet long for thousands of cattle, and there is not one out of every 100 gets a drink.

2055. With regard to the height between the decks can you give us any idea as to the height between decks?—Yes; the present height in the City of Dublin Company's boats, I believe, varies from 6 feet to 6 feet 6 inches; but my idea is that we should give them a little more air space. I have calculated this apparatus at a scale of three-quarters of an inch to the foot, and it shows a height of 7 feet 6 inches.

2056. A foot more than is at present usual?—Yes.

2057. (*Mr. Cullen.*) I understood you to say that you estimate the damage to Irish cattle at about 12s. a head?—About 3s. a cwt., or an average of about 12s. a head.

2058. And about 600,000 of these beasts come annually from Ireland?—Between 600,000 and 700,000.

2059. And there is between 600,000l. and 700,000l. a year of loss?—Yes.

2060. And it is with a view of minimising that loss that you are giving your evidence here?—I have no interest in the grazing of cattle. If I buy cheap I sell cheap, and if the beasts were bought in better condition I could sell them better, and I could give more. I think the loss would be 600,000l. a year to the grazier

without saying anything about the sufferings of the animals as well.

2061. You spoke of a man named Carter?—Yes.

2062. And that he lost a large sum of money, 3,000l., I think you mentioned in connexion with the "Blackrock"?—He lost a large sum of money.

2063. Had he any option of insurance?—He had no option of insuring his cattle by the "Blackrock." I believe the "Blackrock" people did not insure them.

2064. Do you know that as a fact?—I am given to understand that they did not insure them, but now they do.

2065. Are you prepared to say that if he had liked to insure against all risks he could not have done so at the same rate as by the City of Dublin Company?—He could not.

2066. You make that statement?—I do.

2067. So that they came entirely at their own risk?—Yes.

2068. And he had no option of insuring?—Yes; but since then I believe the "Blackrock" people have made some arrangement as to insuring cattle with some insurance company.

2069. Now there is another line of steamers, screw steamers, of the same kind called the *Tedcastle*. Does that apply to that Company, do you know?—I cannot say, I never ship with the *Tedcastle*. As regards the "Blackrock," I persuaded Mr. Carter that the "Blackrock" was a very bad ship, and I never liked her as a cattle-carrying ship, and one night I went with him from Dublin in the boat and that is the only time I have been at sea on the "Blackrock." My cattle have never gone in any other ship since I have been in the cattle trade in Ireland, except the City of Dublin boats.

2070. But the fact was that Mr. Carter had a very large number, the great majority of the cattle on board the steamer on that occasion?—Yes, something like 400.

2071. I do not know the number. You do not know whether he could have insured them or not?—I am positive he could not; he might have gone up the town and insured against total loss, but he could not take them at insurance risk with the Company at that time.

2072. Then with regard to the "Tedcastle" and those other steamers, does the same thing apply?—Well, I believe that the *Tedcastle* people do insure the cattle, but I am not confident on that point. I know for a certainty what I am saying about the "Blackrock" is right. I asked the question.

2073. But you do not know anything about their boats?—Yes.

2074. And you say positively that they could not have insured in the "Blackrock"?—Yes.

2075. Now there is a difficulty about Irish cattle, because there are various and different sizes of them?—Yes.

2076. How would you propose to deal with them. We have it in evidence here that there are 150,000 fat cattle coming to Liverpool, speaking roundly?—Yes.

2077. Would not fat cattle, as a rule, occupy a larger space than small cattle. You know there are a variety of sizes and conditions down to calves?—Yes.

2078. And the question is how can we deal with these beasts of all sizes, what would you suggest?—Well, of course, if you have calves that is one thing, but when you get a two-year old beast and upwards they should be treated the same and all have one space. Of course, a calf under 12 months old would be different, but over that I should treat him the same as the others.

2079. The view that I take is this, that we want something defined between store cattle and cattle that ought to be treated in one way—that is just what we want a definition of; would you say that calves of under one year would be the only ones that you would treat exclusively?—But the great bulk of these store cattle that come into the South of England and into Norfolk are larger beasts and take up more space than your fat cattle do.

2080. I understand all that perfectly, but the difficulty that I have at the moment is how to define them, what would you suggest?—You see you have so many store cattle; these store dealers might have a

valuable beast—I have seen Fogg Brothers come up with beasts costing from 25*l.* to 75*l.*, the best store bullocks to go to Norwich.

2081. Precisely, that is the difficulty?—That is the difficulty.

2082. I want you to assist me out of it?—I cannot tell you.

2083. Can you define them?—Those bullocks would be defined at the time they were booked or examined by the veterinary department in Dublin as 'store cattle' because these men are store dealers—we cannot deal with these figures that you have, considering how many bullocks there are going into Norwich and Norfolk, very few of them are small cattle.

2084. I am aware of that, but I want a definition for the guidance of this Committee, because it does not do to say that because a man deals in store cattle all his cattle shall be called stores, because he can buy fat cattle if he likes—he cannot be prevented, how would you define them?—That any beast under a year old or not exceeding a year old I would call a calf.

2085. And you would treat all the others as cattle?—All the others as cattle.

2086. That is a difficulty that we have got over. This is the only positive evidence that we have had in defining store cattle. Then there is an important thing. I notice that the City of Dublin Company have three tiers of cattle one above the other, one on the lower hold, one on the 'tween decks, and one on deck?—Yes.

2087. There is a preference given to each of those places in accordance with their position, that is, dealers wish to put their cattle either on the lower or the middle, or on deck?—Everybody wants to get on deck.

2088. That is the first preference?—Yes.

2089. And the second is the between decks?—Yes, the between decks.

2090. And last of all is the lower hold?—Yes.

2091. And the impartial arrangement of that is entirely in the hands of the City of Dublin Company?—Yes, the man that superintends the loading of the cattle.

2092. Supposing you bought cattle in Mullingar that had been brought in from the neighbourhood to the fair and booked them right away, they would come up in two or three hours by special train, and, of course, the men in Dublin who are on the spot would have booked all the places before you had brought your cattle in, and would it not be likely that those that came last would get the lower hold?—Certainly; I do not know whether I said anything in my evidence about this matter, but I should like to say that in future arrangements for carrying cattle they ought not to have this lower hold at all, but have it adapted for carrying cargo only, and when you have not got cargo to put into that ship, you ought to have it fitted up for water, say in tanks so as to be ballast, and have some dead weight in the ship to steady it.

2093. Now this matter of the lower hold is very important, because you have had considerable experience of this hold. There must be some reason why you gentlemen do not like the bottom hold, for you are not apt to make preferences without a reason?—We are not.

2094. I suppose it would not be because you had too much ventilation?—They are short of ventilation in the bottom hold.

2095. The lower hold is deficient in ventilation?—Yes, and the ammonia from the cattle is something terrible, and the heat also. You see the cattle come out in the coldest weather, and they are saturated with steam and wet.

2096. Would you abolish the lower hold?—Entirely.

2097. And that is the worst place for ventilation?—It is in the lower hold that you get the trouble.

2098. There is one thing more I should like to ask you, and it is this: I listened with great attention and interest to your evidence on this point, as to the injury to the backs of the cattle. It appears to me that that is a very important thing, because on their backs is where all the choice parts of the meat are to be found?—Yes.

2099. Generally, round the hold there is a beam or something of the kind that reduces the height of the hold?—Yes.

2100. And it is under that point that the cattle have to go?—Yes.

2101. But, as a practical man, would you tell me the exact height you would like to have the lowest part of the between decks, between which the cattle would have to walk down?—The lowest part should not be less than 6 feet.

2102. Do you mean anywhere—from the beams or any place?—Yes, and I prefer to have it 7 feet 6 inches.

2103. (Major Tennant.) You mean the headway underneath the combings of the hatchway?—Any part that the cattle have to go through.

2104. A minimum of 6 feet?—Yes.

2105. (Mr. Cullen.) And that you look upon as doing the most serious damage to Irish cattle?—I do; and it is injuring the thing that everybody wants. If it was something about the shins and legs, where the coarse meat is, it would not matter so much, but you know if you destroy the roasting beef of the bullock you destroy the principal part of it.

2106. You say thousands of cattle come without any attendance?—Yes.

2107. Do you know whether those cattle were insured or not?—No.

2108. But at all events that fact remains?—Yes. What I mean is this. If I said there were thousands of cattle coming without any men in attendance, I meant that the owners of the cattle have no men on the ships to look after the cattle, but they are left in charge of the shipping company. The owner has no men there to represent him; in my case I have a man who travels with the cattle.

2109. But that does not alter your facts?—But it defines the thing that they probably might want somebody to look after them on board ship, but there is no direct representative of the owner of the cattle.

2110. I understand you perfectly. But in order to have this properly carried out you think there should be some responsible men?—Yes.

2111. Whether the owner's man or the shipowner's man, or whoever is capable, so long as he is a responsible man; that is all you want?—My idea is that the Steam Packet Company, the carrying people, should provide men to attend to these cattle, and that they should employ practical men for the purpose, and when the bullocks walk on board the boat, that they should be under the charge of the captain and officers of the ship until the time that they are discharged at the port of debarkation. We have a case in point of some boat in Liverpool where the captain was prosecuted the other day for cruelty to animals, and he got out of the difficulty by saying that he was not responsible. What I want is to make the captain and officers of a cattle-carrying ship responsible for the cattle.

2112. Did you happen to know anything about that summons; did you see that ship, "Mayo"?—I did.

2113. And after she was landed?—Yes, the captain kept them in port, and they came and landed them the next day.

2114. And no one was found responsible on that occasion?—No one was found responsible.

2115. What was the cause; was the vessel improperly trimmed, or were the head ropes cut?—The cattle had got adrift; the boat had got a list, and one or two men, Mr. Oliver and Mr. Murray, who were on board the boat, complained that the boat was badly trimmed. She had a bad list.

2116. Did you see her?—I saw her with a severe list.

2117. And you were told that the cause was that she was badly trimmed?—She was badly trimmed, and she had bad weather.

2118. But that would not have occurred if she had been properly trimmed?—Not if she had been properly trimmed.

2119. What facilities have you for the landing of cattle in the Isle of Man; have you a floating stage?—We have no floating stage, just an ordinary bank. Our harbours in the Isle of Man are tidal harbours, and the boats only get in at certain stages of the tide, and the cattle get on board at high water; so it varies from two hours before high water till two hours afterwards, but the stage is in a comparatively safe condition.

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2120. You are generally in favour of increasing the length of the gangways, so as to reduce the incline?—Yes.

2121. You speak of brick floors or wooden floors. There is a considerable difference of opinion about these brick floors. We have about two acres of them in the Stanley Cattle Market, and we find they are extremely slippery?—These are glazed bricks, but the stable bricks that I am speaking of have little bits dotted all over the brick, about the size of an inch and a half or an inch square, for the cattle to catch their feet on.

2122. And these are bricks which are 9 inches by 4½ inches, with chamfered edges, that is, channels cut in them?—Yes, and those bricks I am speaking of are something in the same way, and they can be grafted in with concrete and made watertight.

2123. We found these very slippery, and reverted to the common sandstone?—If you have the stable brick it is impossible for the beast to go down.

2124. It is a stable brick?—These bricks that you have in Liverpool market are smooth on the top, and they have not got the notches distributed all over the brick like ours.

2125. Yes, they have, and they are just as you describe them?—They are very different from the bricks that I have alluded to.

2126. (Mr. Parker Smith.) That model that you showed us is for two bullocks?—Yes.

2127. The evidence we have had before has been in favour of pens with four bullocks?—This would minimise the risk considerably to the shipowner, and it would prevent suffering to the cattle too. In this case, if you have only two cattle in a stall, and a beast gets down, he can lie down comfortably without anyone of the other animals injuring him, or if the ship is rolling the animal has something to lie against; but in the case of four cattle in a pen, and one gets down, it is a thousand to one but you have the others down too.

2128. The more divisions you put in, the more expense and the more trouble; is not that so?—Yes.

2129. Your evidence is, that you would not be satisfied with pens holding four cattle?—I would prefer four to eight.

2130. But after considering the expense, you wish to have a pen to hold two, and not to hold four?—You see the only additional expense would be those dividing boards which divide the cattle. The expense is not very severe for the dividing boards, which are only two-inch planking.

2131. If you largely increase the uprights there is the time and trouble of putting them up and taking them down?—You can put them in in quite as little time as the ordinary cattle pen.

2132. Do you attach much importance to having a separate board to each beast?—I do.

2133. Would you not be satisfied with having a piece across for the two beasts?—This would be the only board for carrying cattle. That arrangement is to show the difference—that is provided for carrying sheep or pigs. The sheep or pigs would get under this; but this one adapted for carrying cattle only.

2134. But you would not be satisfied with taking out every alternate upright, and having one piece for each pair of beasts?—We will suppose that a beast gets down in a stall; you have only to remove a piece of timber to get the beast out, whereas under the present system you would have to shift two or three cattle, which would be very difficult. Supposing you have only four cattle you might have to shift three; but in this case the beast would be moved.

2135. Are those beasts placed with their rumps against the sides instead of their heads?—All the ships coming from the United States are fitted, and the cattle are carried that way, on account of their requiring food and water.

2136. Are you acquainted with the fittings on those boats?—I am.

2137. Are those fittings like the fittings there (pointing to the model)?—Well the provision is different. Of course the arrangement is made more for feeding and watering and that kind of thing on the American ships; but this is totally different (pointing to the model); there is no arrangement for padding or crushing.

2138. You consider that the state of the ventilation in the lower hold produces one of the most serious evils that the cattle suffer from on board?—I do.

2139. Do you consider that artificial ventilation should be introduced?—Yes, there should be a forced draught.

2140. Or an exhaust?—Yes, or compressed air or something of the sort; one of the last new steamers on the Irish cattle trade coming from the port of Dublin is fitted that way, and they have been sending cattle with her ever since she came on. A screw boat called the "Fern" is fitted with forced draught, not only for sending the cold air in, but driving the hot air out.

2141. You say that you have sent your beasts at company's risk not at owners' risk?—Yes.

2142. Is that usual?—No.

2143. Many of them send at owners' risk?—Yes.

2144. Do many or few send at owner's risk?—Many of the large shippers send them at owners' risk; the cattle are only insured to walk ashore, and it does not cover them sufficiently.

2145. When cattle are sent over at owners' risk do the owners send drovers in charge of them?—Yes, as a rule.

2146. But you do not think that that is so satisfactory as sending at company's risk, and the company's men in charge of them?—Certainly not.

2147. Why?—Because I think that the responsibility as in all other commercial cases should rest in the hands of the men on whose premises the things are. I think that in the case of cattle put on board ship, the shipowner should be responsible, and that responsibility should last until the animal walks ashore and until it is away from his supervision. For this reason I might send a man across with a lot of cattle, and I might take any chance man I could get if my own man was not there, and I had to fall back upon the best man I could find, I sent him to sea with these cattle. The night might be good or bad, and probably this man might have a shilling which he would spend in whisky and get drunk, and the captain and officers would have no control over him, and could not prevent him getting drunk; but if the captain and officers were made responsible they would have a man solely under their charge, and they would make it their duty to see that that man looked after the cattle.

2148. You have spoken of the railways of Ireland, and you have experience of sending beasts both from Ireland and England?—Yes.

2149. Do you consider that the beasts are as well treated in Ireland as in England?—I would not like to say that they are as well treated in Ireland as in England, but there has been a great improvement in the cattle traffic of Ireland within the last four or five years.

2150. Is there any serious inferiority in the cattle traffic on the railways in Ireland as compared with England?—The waggons are not so good, they are wider.

2151. What is wrong?—Many of them have not spring buffers. The cattle are put into ordinary goods waggons. In England they have a cattle truck and it is used for cattle only.

2152. (Major Tennant.) I understand that you estimate the total loss to Ireland, owing to the injury done to the cattle, at about 600,000*l.* a year?—Yes.

2153. Do you think that most of that loss is due to injury received in the water journey?—I do.

2154. Then I presume, as representing the trade in this matter to a certain extent, you would say that the majority of the importers from Ireland into this country would be willing to pay anything short of 1*l.* a head in order to ensure that this loss should disappear, which is now due to the water traffic?—The shippers of cattle, of course, would be prepared to meet the shipowners in any way to get the cattle across, and not to have the name that they are Irish. At certain parts of the year as soon as the Irish beasts appear the butcher might fight shy of them and say, "I do not buy any this week, it has been blowing hard. I will not have any Irish."

2155. Then they would pay a great deal higher freight than now, I suppose?—Yes.

2156. There are a certain number of vessels that are running at a much lower rate than the ordinary rate you say?—Yes.

2157. Does not that show at anyrate that there are some who do not agree with you as they will for the sake of saving the freight, carry cattle in an inferior ship?—I will show how a great deal of this opposition is worked off. Perhaps a dealer man like myself may have had some grievance with the old company, and that kind of thing, this man that goes with the "Blackrock" he starts the ship. There are men who do not give the "Blackrock" all their cattle, but perhaps 20 or 30 to 40 cattle on purpose to keep the opposition going. I do not think that they do it specially because they get the cattle sent for 3s. a head cheaper.

2158. It is a kind of personal grievance?—Yes.

2159. I should like to come to the cost of your proposals, I understand you to say that the cost of the fittings that you propose would be something like 50 per cent?—Yes.

2160. Then you propose to do away in effect with the carriage of cattle on more than two decks?—Yes.

2161. So that one deck would be lost to the cattle carrying?—Yes.

2162. Then you propose that the fittings should be much more elaborate, that is, that there should be a greater number of stanchions, a stanchion to every two cattle?—I do not say much more elaborate, but I say we should have much more useful and better adapted fittings.

2163. You propose that there should be a stanchion for at least every two cattle?—Yes, I propose that a beast should stand between two stanchions; with the two cattle there would be three stanchions.

2164. There would be a stanchion for every animal?—Yes.

2165. Whereas now in many ships very often there is not more than a stanchion for seven or eight animals?—That is about it.

2166. Then you would increase by 400 or 500 per cent. the quantity of the fittings?—Yes.

2167.—And those fittings will have to be carried backwards and forwards and shifted when the return voyage is made in order to carry ordinary cargo. That would be done every voyage, they would be carried backwards and forwards. Now you will admit that that would, therefore, increase the cost to the shipping company?—It would certainly increase the cost to the shipping company. Here you have pens, say four feet or four feet six. You have that already, and the only addition is this upright here (*pointing to the model*).

2168. And the dividing boards?—Yes, and the dividing boards.

2169. You quite recognise this fact, do you not, that if you were greatly to increase the expenses of the carrying company, there might be a like increase of the freight in order to cover that?—Certainly.

2170. Do you think that the trade would be prepared to bear that?—I am certain they would.

2171. And they would like it to be compulsory?—Compulsory.

2172. Now as to detention, I should like to have your views of the detention of animals for feeding and resting purposes. Would you propose to make it compulsory that animals should be rested and fed either before or after embarkation, or would you have it, as at present, voluntarily?—Well, I think that there should be something ensuring that an animal should be fed and watered for so many hours after landing at the port of debarkation before proceeding by rail.

2173. You would make it all compulsory?—Yes, but I should like to say one word; if there is a lot of cattle landed to go to Manchester, which is only 36 miles off, I would not detain those cattle as long as those I am sending to London or Norwich, which might take them from a 12 to 24 hours' railway journey.

2174. You would not make it absolutely compulsory, but you would leave it to the discretion of some official?—Yes.

2175. Do you think that would be wise?—I do, because he would know where the cattle were going, and what they would require.

2176. You suggest, according to your model fittings, that it would be possible to feed and water cattle on the voyage?—Yes.

2177. If that could be done, do you think still there should be anything like compulsory detention?—No, if you have these fittings, and there was a supply of hay and water on board the boat, the man could buy it.

2178. And then compulsory detention would be unnecessary?—Quite so.

2179. In your own practical knowledge, have you ever tried to feed, and especially water cattle with buckets on board the Irish ships?—I have done both on the Irish ships, and many other ships too, particularly in warm weather; I have my beasts watered, and have buckets carried to them, and I have seen a bullock drink as much as three buckets of water.

2180. Will ordinary store cattle, two year olds, take water out of a bucket?—Yes, I should think about 80,000 of the cattle shipped are off the land.

2181. That has been your practical experience?—Yes.

2182. I do not know whether you know it as a fact, but there is ample evidence with regard to the American boats, that for the first 24 hours the American cattle will not drink?—But they do not water with buckets.

2183. You may take it from me that they do?—No, they do not.

2184. We will not discuss that. You mentioned that you wanted a headway of not less than 6 feet between the combings and the deck and the ladders?—Yes.

2185. And you also want the ladder at such an angle as not to be uncomfortably steep?—Yes.

2186. Have you considered what height between the decks you would want in order to give a headway of 6 feet, and at the same time to have an easy gradient, say of 1 in 4?—What I alluded to before was this—

2187. You need not go into that question. You are going to have it fore and aft; have you considered what height you would want between the decks if you are going to have a gradient not exceeding 1 in 4, and yet to have a headway of 6 feet?—Well, the space would be about 7 feet 6.

2188. You think that would give that headway?—Yes.

2189. You mentioned that in the "Blackrock" the fittings were not, in your opinion, good?—I did.

2190. Did you take any measurements as to the size of the fittings?—I did not.

2191. (*Chairman.*) I notice that you spoke about store cattle; do you deal much in them?—I do.

2192. We have not yet had an estimate of the average deterioration that would be suffered by store cattle?—I think that the deterioration in store cattle is equal to that of fat cattle. When a farmer is buying an Irish beast, say a grazier in Norfolk, or any of those parts of the country, he always expects to lose a certain number of cattle, or he is lucky if he does not, through the cattle being crushed or knocked about, and he pays much less for the animal.

2193. We are also told that they do not come to fatten?—They want a lot of fattening, and they have to be kept some weeks.

2194. You mentioned certain vessels running between London and Dublin. Do you import cattle into the Isle of Man and to Liverpool?—There is a certain season of the year when we export cattle from the Isle of Man. Our cattle come out at the same time as the Scotch cattle, stall-fed cattle; just for a few weeks after the turnips we have a rush of cattle going to Liverpool and to Manchester, but for nine months out of the year we import cattle to the Isle of Man.

2195. Taking these cattle that have been exported to Liverpool, have they fetched the same price as the land-borne Scotch or English cattle, or have they been deteriorated by the passage?—The Manx cattle in Liverpool or Manchester will make as much a pound as Scotch cattle of the same quality.

2196. Has it always been the case, or is it only since the new fittings have been put in the ships from the Isle of Man that there has been an absence of allowance for deterioration in Manx cattle recognised in the Liverpool trade, or has the price improved since better accommodation has been given for carrying the cattle?—Since there has been better accommodation for carrying cattle.

2197. How much?—About 3s. per cwt., or somewhere about 1l. per head. Twenty years ago they used to give

- Mr. J. Rooth.* the same per pound for Manx cattle as for Irish, but since the improvement in Manx cattle the butchers have found out that they are free from bruises and eat well, and they give a fair market price; in fact they run after the cattle.
2198. Just one other question. Has there been any increase in the trade?—We have had freights lowered within the last two years; it used to be 8s. and now it is 7s.
2199. Has there been any extra competition?—No, I may say that the Isle of Man steamers now only carry on the main deck, and not in the holds at all.
2200. (*Mr. Watson.*) Were you at sea the night of the voyage you spoke of?—I was.

The witness withdrew.

Mr. WILLIAM S. BANKS called and examined.

- Mr. W. S. Banks.* 2205. (*Chairman.*) You are a director of the Stanley Market at Liverpool, are you not?—Yes.
2206. And you have been asked to give evidence in connexion with that company?—Yes.
2207. (*Mr. Cullen.*) You are largely concerned in the cattle trade, I believe?—I am.
2208. You also do business as a retail shop butcher amongst other portions of the trade?—Yes.
2209. You are also a director of the Liverpool Cattle Market Company?—Yes.
2210. This document (*producing a paper*) has been in your possession, and it was received by you in the course of your business?—Yes.
2211. That shows the number of cattle exhibited there. It is an old return; there is not one in existence now, but you know from the report of last year that the number is much larger than that?—Yes.
2212. Is not the number of cattle shown in that market 280,000?—Yes.
2213. And in 1887 it was 103,939?—Yes.
2214. Were the great majority of the cattle shown in that market, Irish cattle?—Yes.
2215. The remaining portion are only a fractional portion relative to the whole, and these do not come by sea; that is, they are principally Irish cattle shown in the market?—Yes.
2216. For the purpose of trade you find Irish sound cattle free from bruises the most valuable cattle you could have—when you get them perfectly free from damage?—Yes, the Irish heifer, if all right, is the very best you can get.
2217. When free from damage?—Yes.
2218. You are a member of the Butchers' Association as well, are you not?—Yes.
2219. The return of average loss is something like 10s. per head, but you consider your own loss is much more than the loss on all the Irish cattle?—Yes, and I can give you proof of it.
2220. You purchased some cattle about three weeks ago, I understand, in the market?—Yes.
2221. And those cattle were put to you at the highest price per cwt. in the market for the purposes of your choice customers?—For my own shop.
2201. Which boat were you in?—I was in one of your boats.
2202. Did you leave Dublin that day?—I left with the mail boat.
2203. I merely wanted to ascertain from you whether the weather was very bad that night?—Yes.
2204. (*Mr. Cullen.*) Is there any official return of the cattle of the Isle of Man?—There is an official return. If it would be of any advantage to the Committee, I shall be glad to send an accurate return from the Government offices in the island.
2222. And on slaughtering they were all found to be damaged, and you could not expose them for sale?—I had to buy other beef to show.
2223. You sold this as damaged goods?—Yes.
2224. You do not take it that the average loss on Irish cattle is from 2l. to 5l. per head, but only in that special instance, I understand you to say?—Yes.
2225. And you think that the estimate of the Butchers' Association is rather under the mark?—I think that it is under the mark.
2226. With reference to the cattle that you purchased a few weeks ago, they were bought as the best cattle in the market?—They were the best.
2227. You gave the highest price for them and they were unfit for sale, and you sold them as damaged goods?—Yes.
2228. And you had to buy Cheshire cattle in order to supply your customers?—But I can go further than that if you like.
2229. One instance is sufficient. Then you consider that, with a view to improving the condition in which those cattle are brought to the market, it is essential to have capable and expert men for taking care of them on board ship?—Yes.
2230. And you want to have sufficient accommodation and special regulations against overcrowding on board the boats?—Yes, a great deal of the fault is on the other side of the channel. I mean that the men who drive them, stick them, and make a mark on them.
2231. Then the loss to you on those cattle would be about from 3l. to 4l. per head?—Yes.
2232. (*Mr. Watson.*) What proportion of the cattle are damaged up to the extent of 5l., is it half?—I could not work that out.
2233. Is any large proportion damaged?—A very large proportion.
2234. Up to 5l. a head?—Well, it drives people away from buying Irish cattle, and they go and buy American beef in preference.
2235. (*Mr. Cullen.*) In this particular instance that occurred three weeks ago, how much do you estimate the loss and the cost of buying other meat, and everything else?—I estimated it at 5l. per head.

The witness withdrew.

Mr. GEORGE WHEATCROFT called and examined.

- Mr. G. Wheatcroft.* 2236. (*Chairman.*) You occupy an official position in Liverpool, do you not?—Yes.
2237. For the last 12 years you have been in the service of the Liverpool Corporation; for what purpose is that?—For the purpose of carrying out the provisions of the Contagious Diseases (Animals) Act, as far as they affect the cross-channel Irish cattle trade.
2238. Are you very largely brought into contact with this class of work?—I spend the whole of my time on it.
2239. Doing what?—Examining the cattle steamers from Ireland principally. I examine perhaps 40 in a week, and I visit several of them many times a day. The object of his visit is, in reality, to see whether the requirements of the Act are carried out—first of all, in respect to the fittings, whether there are any battens or proper footholds provided, and whether there is any ventilation, or whether the animals are overcrowded or not, and also to see whether the vessels are properly cleansed and disinfected before taking cargo on board.
2240. Have you any power to enforce compliance with your orders?—We have had cases repeatedly brought into court.
2241. Have you had any cases of overcrowding? We were told by a witness who was examined a few minutes ago, that there was no regulation as to overcrowding—that the pen must be of a certain size—but that certain ships carried as many cattle as they could take into them?—The Contagious Diseases (Animals) Act deals very clearly with that. It says that the vessel shall not be overcrowded so as to cause unneces-

sary suffering to the animals. In my experience we have never had a case of the kind taken into court. I believe that is the only thing we have not got out of.

2242. That is exactly what I want to know, because your evidence is so diametrically opposed to that of the previous witness. He stated that a certain vessel might be capable of carrying 400 cattle, but that 450 were taken on board, and he seemed to think that that was a regular thing in one of the lines of steamers?—I do not agree with him.

2243. You spoke about your inspections for overcrowding; do you see the vessels before they are unloaded generally?—Most of them, not all, but as many as possible we visit on their arrival.

2244. Have you any standard of proper accommodation as contrasted with overloading?—That is the difficulty to contend with; the difficulty is to say when a vessel is really overcrowded.

2245. Has any case been brought before the court?—Not in my own time.

2246. Not in Liverpool or elsewhere?—As far as Liverpool is concerned, there is not; I cannot speak of other places.

2247. One may take it that that expression "overcrowding" has never been interpreted, and the law has so far been a dead letter?—It is a little vague.

2248. What were the other points?—The ventilation was one of the things.

2249. We have had evidence from an official witness that the ventilation is a very difficult thing to control officially, because if you say you require sufficient ventilation, you have got no standard?—The law deals with that, but there is plenty of room for improvement.

2250. What does the law say? that there shall be sufficient?—That a vessel shall be supplied with sufficient inlet and outlet openings to provide the animals with a sufficient supply of air in all stages of the weather.

2251. Has that law generally been complied with according to that condition?—It has not.

2252. Have you ever brought up any case?—Yes.

2253. With what result?—One of the vessels was the "Princess Alexandra," and she was fined 40s.; she had 300 sheep in the forehold, and 90 of those 300 were suffocated, simply for want of air they were asphyxiated.

2254. If that was proved, it was evidence that there was insufficient ventilation. What other cases have you?—There is a vast difference in the ventilation of those vessels; they vary considerably; some are better than others owing to fittings; on a new principle being fitted up.

2255. No other cases?—Not in the police court, but there are many doubtful cases, but they do not go far enough to enable you to lay an information against them.

2256. When you do not take any action; no one else does. Does the Society for the Prevention of Cruelty to Animals do it?—No, I do not think they would deal with it.

2257. You can give us one case of a prosecution for insufficient ventilation in Liverpool which has been brought into court; do you know of any other cases of prosecution for insufficient ventilation in other parts?—Not that I am aware of.

2258. Therefore, I suppose, there can have been no interpretation of the law as to what constitutes sufficient ventilation either?—That must be left to the discretion of the inspector.

2259. But, as a matter of fact, you have only had one prosecution, and that in a case where a large number of animals were smothered?—Yes.

2260. What is the next point?—The pens and the fittings of the vessel, were they sufficiently fitted, or of the proper size.

2261. What is your experience as to them; are your requirements complied with?—Lately they have been better complied with, but if I could go over my cases, I have had 10 or 11 vessels that have had no pens at all.

2262. Have you had any prosecutions about them?—Yes, they were summoned and fined.

2263. The insufficient ventilation resulted in a fine of 40s.?—Yes.

2264. You have had about 10 prosecutions for insufficient fittings?—Yes.

2265. What did the prosecution result in there?—A fine of 5s., and one was only half-a-crown; I think 40s. would be the most.

2266. Then what is the next point?—We have had several informations laid for not having battens or proper footholds in those pens. The penalties were very small in these cases, 5s. and 10s.

2267. With those penalties you may say practically the law cannot be said to be very strictly enforced. I was going to ask you whether the Board of Trade gives a certificate to those vessels?—They do.

2268. But we are told that there is no necessity for this certificate, and as a matter of fact certain cattle vessels ply the trade after the certificate has expired?—No doubt they do, and the only thing they trouble about would be the passenger certificate,

2269. But in that case you have no power?—No; we should not interfere at all.

2270. Do you think that the present requirements of the Board of Trade are fairly well complied with?—In that one particular, as far as the pens are concerned, I believe they are now.

2271. Are the pens battened properly?—I do not think there is much to find fault with.

2272. But as to the ventilation, what do you say?—There is plenty of room for improvement there.

2273. And in order to secure that, it would be necessary to have some sort of a standard fixed?—We have two vessels in Liverpool, and they are the only two that I know of which are perfectly fitted; one is the "Mystic," which plies between Liverpool and Londonderry, and the other is the "Blackrock." I could not describe the system to you, I am not sufficiently acquainted with engineering, but these systems are really perfect. It is a patent which is worked by machinery. In the case of the "Mystic," the vessel was at sea, and no matter how bad the weather the hatches could be put down and battened, and those animals would be as cool and comfortable as one would wish.

2274. But certainly the "Blackrock" was not improved on the occasion of the loss?—It was not the ventilation that was wrong.

2275. Had the ventilation anything to do with the water getting in?—Not the slightest.

2276. Do you suggest a standard, so many hundred cubic feet of air per animal?—I have never gone into that question. If I was to suggest anything I should say that every vessel should be fitted up the same as those two I have mentioned—the "Mystic" and the "Blackrock."

2277. If it is a particular patent, the Board of Trade would hardly be justified, nor indeed would it be politic to enforce a regulation in favour of one patentee?—A good many of these Irish cattle boats are now 30 and 40 years old. Their ideas are obsolete, and they have not advanced with the times.

2278. A witness has suggested to us it should be forbidden to carry cattle in the lower hold; what is your idea of that?—I differ from him altogether there, because there would be less motion in the lower hold, and the cattle would lie far less comfortable on deck.

2279. His argument was that they got greatly injured in getting down to the lower hold?—That is one of the strongest points that I should like to mention; cattle get down in these holds in the finest weather. I do not care whether they are in the 'tween decks on the lower hold; it is perhaps from exhaustion, and the other cattle will trample on them. At present the only way to get at the cattle is by climbing over the others backs. Another point is, that they do not carry sufficient cattle-men, so as to get the beasts up, and thus a lot of broken legs and bruised limbs would be prevented, which are due solely to the want of men. I remember a case distinctly myself, not a very long time ago, where two bullocks got down in a 'tween deck in beautiful weather, and there was hardly a breath of wind stirring. Those bullocks had been certainly dead for some hours, and not a soul knew until the men came on shore.

2280. When I spoke about the injury of getting down into the under hold, I did not mean falling down if they

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were there. Do your inspections include the gangway?—Yes.

2281. And as to the means of descent?—I should certainly see if there was anything wrong, if the cattle got injured from not being properly placed or tied, and I should try to get it altered.

2282. There has been some objection taken to slinging cattle to the lower parts?—That is not done in Liverpool unless the beast is so badly hurt that it cannot walk, and in that case the injured beast is slung, and if it is done carefully it is the only thing that can be done. It cannot walk with its limbs broken, and the only way of getting it ashore is to sling the beast with as little cruelty as possible.

2283. I understood that there was some objection to slinging?—I cannot see what else they could do. There are different kinds of slings. If they take a rope sling, and put it round the middle of the beast, it would certainly injure it, but if they used canvas in the form of a stretcher, the beast would not take any further injury.

2284. You have only one instance of prosecution for insufficient ventilation, and that was undertaken in connexion with sheep?—It was.

2285. Have you any reason to believe that cattle suffer from want of ventilation?—I think they do in some of the vessels, because it is only reasonable to suppose that, if the ventilation is not perfect, the cattle will breathe a poisoned atmosphere, you might say. This would affect the cattle, and the flesh as well, after landing.

2286. The fact was mentioned to us by one of our witnesses to-day, that in the lower hold in some cases the ventilation is very bad and the heat is very great, and the cattle come out, even in the coolest weather, dripping with perspiration; is that according to your experience?—I have certainly seen cattle in very hot weather, perhaps in the month of August, coming ashore steaming a little, but not so bad as that. I should not like to say that is generally the case.

2287. You have not noticed any difference in point of heat or apparent discomfort. You have not noticed any difference between cattle in one part of the ship and cattle in another part of the ship; I mean between cattle on the 'tween decks, and the other parts of the ship?—I have noticed a deal of difference between one ship and another, but not one hold in the ship and another, I cannot say that I have.

2288. Are you aware that cattle dealers prefer the deck in the first place, and consider the lower hold the worst part of the ship; have you ever heard them say so?—Yes, I think that cattle dealers are rather hard to please. I have heard them refuse to go on the 'tween deck on a bad vessel, where I am certain that they would be better than being exposed to the sea washing over them on the main deck.

2289. You rather like the lower hold?—I say it is the better part of the ship.

2290. Do any cattle dealers say so to you?—I never questioned them on these points. I have never heard it mentioned.

2291. How many ships do you go to in the course of a year?—I pay about 180 visits in the course of the week on an average. I examine the foreign steamers as well.

2292. First let us hear about the foreign steamers. You visit foreign steamers, that is, American and Canadian steamers?—Only for the purpose of getting them disinfected. Of course they land all their animals at the foreign animals' wharf at Birkenhead, and I do not go near them.

2293. You do not see any of the animals?—No.

2294. But you see their fittings?—Yes.

2295. Is there any suggestion based upon the fittings of those American steamers, which, we understand, are very satisfactory, that you would make, in connexion with the home trade?—Decidedly I would make the home trade steamers have the same kind of passage or space between the pens as the foreign vessels have. Then there would be no difficulty at all, if the people on board the ship did their best when the beast got down to have it put on its feet again, and save it from injury. I would have more cattle men on board the vessel.

2296. Are the cattle men on board the American vessels servants of the shippers?—I can hardly answer that question. They are generally controlled by a foreman, and they have so many men to 100 head of cattle, and these foremen are responsible to the shipowner for the work that they do, and the damage that the cattle may get. In the case of a coasting vessel that had 400 cattle on board, perhaps that vessel would have only two cattle men. If that had been a foreign cattle steamer there would have been 20, at least.

2297. Then the pens in the foreign cattle ships are smaller?—Yes, only three beasts in a pen.

2298. Would you recommend that, in connexion with cross-channel boats?—I certainly say, that the more room you give the cattle, the better it would be for them.

2299. What do say as to there being fewer in the pen?—The fewer in the pen the better.

2300. As to the provisions for feeding or watering the beasts, I suppose you have nothing to do with that?—I think that it is hardly required, the passage is so short.

2301. But if a beast has been 24 hours fasting, as we are told is frequently the case, what would you say?—That is wrong.

2302. But you have no suggestion to make?—We should not interfere with that.

2303. You have no suggestion to make on the American plan, for instance?—Of course they could fit the coasting vessels in the same way, but it would take away a lot of their space.

2304. Do the American vessels carry them on the lower hold?—No, the law limits the place where they can carry them to three decks, and these vessels have four decks.

2305. You visit the ships after the cattle are out?—Yes.

2306. Have you found much smell of ammonia, for instance?—Yes, it is very strong; in fact, when the men are going through cleaning and disinfecting the ammonia will be so strong that they will have to come on deck away from the smell. That is on the Irish boats.

2307. Is that the case on the American boats?—I never perceived it there.

2308. Is that owing to the better ventilation?—The larger 'tween decks; there is such an immense space there.

2309. That argues a very insufficient cleansing on the part of those vessels. The ammonia will not be produced except by the putrefaction of the urine and other ejecta of the cattle; and if it was properly and promptly cleansed we should not have to fear that?—They are very promptly cleansed. We have had more difficulty with that part of the law than any other. In the 12 years we have had 150 prosecutions on that point of non-cleansing.

2310. What are the fines there?—From 5s. up to the full penalty of 20l. We always get a higher conviction for that than anything else.

2311. Let us hear of the 20l. case?—The Waterford Steamship Company, I think, were the last people.

2312. What were the facts in their case?—They were shipping cargo and storing it amongst the cattle dung without making any attempt to remove it until they found proceedings against them.

2313. Who took proceedings?—I did.

2314. And the penalty was what?—20l. and costs.

2315. Have you ever seen cattle blinded on the passage owing to the strength of the ammonia?—I have seen cattle blind, but from what cause I could not say.

2316. Have you heard of the prevalence of ammoniacal blindness?—It is the first time I have heard of it. I have seen blind cattle, and they said it was cataract.

2317. It is the first time you have heard of it? A number of other witnesses have mentioned that cattle are frequently blinded in the cross-channel traffic by the ammonia?—It is the first time I have heard it mentioned.

2318. You have seen the men obliged to go on deck to get the smart out of their eyes?—Yes.

2319. There is no other point on which you have prosecutions in connexion with the cattle trade, is there?—We have laid informations for carrying shorn sheep in the winter season—a few of those.

2320. Have you had many?—Not many cases of those. I think the Belfast people were the last, and they were fined 6*l.* for carrying 10 or 12 sheep.

2321. Have you any trouble with pigs?—No, only in the ordinary course of disinfection. We have summoned people before now for taking manure without disinfecting it. That would be a very fruitful way of spreading disease.

2322. Do you look after the disinfecting of manure in cattle ships?—Yes, the whole series.

2323. Then you have the double function. Is it owing to the precautions for disinfection that you have so many convictions as to the cleansing, or is it because they find it so troublesome to have the manure disinfected?—I cannot say what their ideas are.

2324. How do they cleanse these vessels?—They scrape and brush the manure, and this is supposed to be landed and well mixed with quicklime, and the hose is got out, and the place is brushed and thoroughly scraped, and every part of the ship is coated with limewash. If that is done properly the ship is free from infection.

2325. That is done each time that she carries animals?—Yes.

2326. So that a vessel plying regularly between Liverpool and Dublin will have to undergo that every day?—Yes.

2327. The limewashing inclusive?—Yes; that is frequently done. The vessel will go to Liverpool, and in the busy season it will go back to Dublin empty, and before it reaches Dublin they will have that vessel thoroughly washed and whitewashed for a second cargo. They can clean the decks in four hours. They could not at first, but of course they are getting more used to it now.

2328. You are an officer of the Liverpool Corporation, what department of the Corporation?—I am under the medical officer of health.

2329. (*Sir William Kaye.*) When was that prosecution for insufficient ventilation?—Some time ago.

2330. What do you call some time ago?—Three or four years ago. The name of the vessel was the “Princes Alexandra.”

2331. From what port did she come?—From Iceland. We summoned her at the same time for not being fitted with pens as well.

2332. Your principal duty apparently is to see that the vessels are properly cleansed and disinfected?—That is the main feature of my duty.

2333. (*Mr. Parker Smith.*) You said you preferred the lower hold for cattle?—Yes.

2334. That is assuming that it is properly ventilated?—Yes.

2335. And in a good many of the ships at present they are not properly ventilated?—It can be improved.

2336. But, as a fact, is not that so?—I should not like to say they are not ventilated.

2337. But do you consider that all ships are properly ventilated at present?—They are not improperly ventilated so that we can take legal proceedings.

2338. Do you find that the beasts suffer much when they come from the lower hold?—No more than any other part of the ship. I do not see a great number of them. Cases might come where they suffered when I should not be able to be on board.

2339. You spoke of one fine weather passage when two bullocks were dead?—Yes.

2340. How was that?—From sheer neglect; they were smothered. They got down, and were smothered.

2341. Was it the ventilation that they suffered from at first?—No; they were big, fine, strong bullocks. Naturally, they would want to lie down of their own accord, and, of course it is the people's place, when they see them lying down there, that they should try to get them up again. No one went to examine the cattle to see how they were getting on.

2342. You do not consider that bad ventilation had anything to do with it?—No, not the slightest.

2343. Are there no alley-ways at present in the lower hold?—There are none on the 'tween decks, or lower holds, or any part of them, in fact.

2344. You say you have not seen cattle suffering from want of fresh air when they land?—Not, strictly speaking. I have seen them hot.

2345. But it is not a point that you attach great importance to?—No, it is not; but still there is great room for improvement.

2346. I do not know whether you are aware that you differ very much from the other witnesses?—I cannot say. I am only giving my own private opinion.

2347. Then you have given us a great many instances of small fines. Have you found the companies willing to amend their ways, after bringing them up?—I do not blame the companies altogether for so many of these prosecutions. I did at first, but it is the servants of the company that really neglect their duty, as far as the cleansing and disinfecting of the vessel goes. The company are only too willing, and give instructions for it to be done. It is someone who is placed there to see it done who has neglected his duty; that is the real cause of so many prosecutions.

2348. What are your powers; are you entitled to go on board every ship?—There is a penalty of 20*l.* and costs, for anyone that obstructs me. The captain of the vessel could demand my authority in writing for going on board.

2349. Where do they get that power?—From the Contagious Diseases (Animals) Act of 1878, but there is a clause which deals with it,—“That the inspector may have power to enter upon a place, vehicle, vessel, or anywhere where he has reason to believe that this Act of Parliament has not been carried out.”

2350. Then it is under the health authority of Liverpool your power is given to the local authority by the Contagious Diseases Act?—It is given to the particular inspector who is appointed by the local authorities. This Act gives power to appoint inspectors.

2351. Have you any authority to make structural recommendations to the company?—Not unless the law says so.

2352. When you see something wrong with the pens, and with the fastenings, do you make recommendations to the company?—I should certainly call their attention to it.

2353. Do you find them acting in accordance with your suggestions?—Some will. If we have no power to enforce we cannot say anything further.

2354. Are the only things you have power to enforce those under the Animals Order of 1886?—That is it; that is made in pursuance of the Contagious Diseases Act of 1878.

2355. Do you consider that these powers are sufficient or would you like more power?—They are sufficient, if properly carried out.

2356. You consider them sufficient for yourself; you do not wish for any more power?—That is a lawyer's argument, I take it; you are asking me to alter the law for you.

2357. No. I ask you, whether, as a practical man, you find your power sufficient to get the things done that you think ought to be done?—There is no doubt about it. I see many things that could be done a deal better than what they are done.

2358. (*Mr. Cullen.*) I understand from your evidence that you are in the important position of preserving the health, practically, of the animals of the United Kingdom in transit from Ireland to England, in the initial stage, by preventing contagious diseases being spread?—That is so.

2359. And, in consequence of that, you have to make as many as 180 visits a week to the different ships?—That is so.

2360. And that is the main and most important part of your position?—Yes.

2361. And that, of course, is a most important thing connected with the cattle trade—to keep them free from disease?—Yes.

2362. And that has been efficiently done so far, from the results that there is no contagious disease in Ireland at the present moment?—I believe that is so.

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2363. With regard to this "Princess Alexandra," do you recollect anything about that steamer?—I do, very well.

2364. Is not she what is called a tramp?—She is, she is not regularly in the trade.

2365. That steamer, tramp or not tramp, was inspected or ought to have been inspected?—She ought to have been whether she was or not, I cannot say.

2366. And she was insufficiently ventilated?—We reported the matter to the Board of Trade.

2367. After the injury was done?—Yes.

2368. And it was for insufficient ventilation?—Yes.

2369. With regard to the cattle arriving in Liverpool, what injury do the cattle receive after arrival in Liverpool? We have got it on clear evidence that there is a good deal of injury; does any of it occur in Liverpool?—I believe that they are beaten more by cattle drovers than is necessary.

2370. Is not there a certain amount of injury done before they come into Liverpool?—Undoubtedly there is.

2371. We have no power to deal with Liverpool, but when the cattle arrive alongside there is a certain amount of injury?—There is another point. You have seen a number of animals with broken legs suffering most acute agony.

2372. We have had all that evidence before you came?—This has not been described yet. No one at present has any power to order them to be killed, they must be lugged up in carts or left suffering till the owner chooses that they shall be killed.

2373. But that injury is not done in Liverpool?—It is done on board the vessel before she arrives.

2374. Supposing it is done when it comes into Liverpool, what would you do?—We have no power whatever. It is a continuation of the cruelty and no one has the power to stop it.

2375. With regard to the ammonia that interfered with the sight of a strong man just going in for a few moments, would not that certainly be sufficient to interfere with the eyes of cattle?—I should think it would. I do not care to speak of anything I do not actually see.

2376. But with respect to these two cattle that you referred to that were dead by neglect. You did not see those? You were not in that particular hold?—I was on board the vessel.

2377. And were you in the hold?—Yes, afterwards.

2378. And there was a very strong smell of ammonia?—No, they were not in the 'tween decks. It was the "Enterprise," one of the Dundalk boats.

2379. But they were neglected?—Yes.

2380. But, generally speaking, you would improve the ventilation of the steamers?—Most decidedly.

2381. There is another gentleman, Mr. Luya, who has another department is there not?—He is my Chief Inspector, I am under him.

2382. I did not know; I thought it was the other way about; but he has great experience of anything that would result to these cattle when they came up to the slaughter-house, and he could give definite information about them?—He is the Chief Inspector of meat and slaughter-houses, and all those injured cattle are brought under his notice, and if they are dressed he can judge of the bruises and injuries received, and he is, of course, a judge whether it is fit for food or not.

2383. But you hardly cross each other in your various duties?—No; I have nothing to do with that.

2384. (Mr. Booth.) Your duty is simply to go down and meet the boat?—Yes.

2385. Mr. Luya's duty covers also the lairage and the cattle station and the abattoir?—Yes.

2386. But he has frequent opportunities of being on the boats as well as you?—He is frequently along with me.

2387. You see so many vessels in a week; do you frequently go down into the holds?—Very often.

2388. And not only on the main decks but into the lower holds?—But it is very difficult.

2389. Do you actually go before the ship is discharged?—Very often.

2390. You were speaking of the "Mystic" having good ventilation. Is she a vessel with more than one deck?—She has 'tween decks and the main deck.

2391. Fore and aft 'tween deck?—Yes.

2392. But she has not any lower cattle hold at all?—She could not carry them.

2393. You said that so far as battens and footholds were concerned you did not think there was much more wanted?—I do. There is one little clause in the Contagious Diseases Act that allows them to use sand or litter or other substance in place of battens, but I think that is wrong; they take advantage of that and put down sawdust. Now the first sea that comes on board will wash that away, and the cattle will be on the slippery deck. That very rarely occurs.

2394. (Mr. Parker Smith.) If it was a practical thing to put the battens athwart ships, would you do it?—If they were fore and aft that would do.

2395. With regard to the disinfection and the lime-wash, which you say is often done on board a ship going back to Dublin, have you heard complaints of small animals getting injured by the limewash?—That is a common complaint.

2396. Is not that explained by the fact, that this washing is done on the voyage back to Dublin, and when the animals are shipped back the deck is wet with lime?—Yes, I have seen them damaged. There is a remedy for that by getting plenty of sawdust and covering the bottom of the deck.

2397. You said you were not in favour of sawdust?—That was to prevent them being burned by the lime.

2398. You do not think the owners do that?—Yes.

2399. You spoke of sawdust in place of ashes, but is not that illegal?—The law is very vague; it says the floor of each pen should be fitted with battens, or litter, or sand, or some proper substance.

2400. Sawdust is an improper substance?—We have included that point, and tried to get them into Court, but we could not prove it.

2401. Do you think that with sawdust they would slip equally?—In fine weather it would be all right, but if a ship struck the vessel it would carry it away.

2402. You think it necessary that there should be proper fore and aft battens?—And nothing else.

2403. And as regards the disinfection and cleansing, is not that done immediately on the ships?—Yes.

2404. It must be?—Yes.

2405. And no manures are ever allowed on board the ship?—They cannot take it away again. They cannot commence their washing until they land it.

2406. It must be landed at once?—Yes.

2407. Do you visit every ship and vessel?—No; it is impossible for me to get on all vessels; there may be three vessels arriving at three different points at once. I should take one point and then go to another point another time, and go on, varying it a little.

2408. You spoke of visiting 180 vessels in a week, that means several visits to each vessel?—Yes, there are only about 40 vessels a week.

2409. And you visit each ship?—Without fail.

2410. And you know, from your personal knowledge, that these things are done in Liverpool?—Yes, as far as I can I try to study it.

2411. (Major Tennant.) I think you suggested it would be desirable that the ship should be fitted with battens, both athwart ships, as well as fore and aft?—It would be sufficient, if fore and aft, of course it would be an improvement to have them athwart ship as well; it would interfere with the cleaning of the vessel.

2412. Would it not interfere with the handling of the cargo, on the return voyage?—It would interfere very much with it. I think if it were fore and aft, that would be quite sufficient.

2413. (Chairman.) You made one remark that I should like you to explain; you said it was very difficult to get down to the hold?—Yes.

2414. How was that?—There was a gangway, we will presume; take it that they are fitted differently, some with a fixed gangway, what they term a "walk up," and others only with an iron ladder. You have to climb down this ladder, and slip the best way you can amongst the cattle and among the pens, and that is the only way to get to them.

2415. Is that a difficult dip for a bullock to get down there?—No, because before they ship the bullocks they ship proper gangways; but after they fill the two holds they —

2416. What is your experience of the gangways; are they easy for animals to go down, or are they steep gradients, requiring a great deal of persuasion to get the cattle down?—At times they are very steep, when they land cattle at low tide for instance.

2417. I am speaking of the ladders?—I do not think there is much to complain of about them. They do not stand at an angle above 25°.

2418. You mention the cruelties inflicted by having no provision for the slaughter of injured animals?—Yes.

2419. Are they not slaughtered on board, or can they not be slaughtered on board?—In a fashion they can;

The witness withdrew.

Mr. FLEMING called and examined.

2424. (Chairman.) You are a foreman bullock man, are you not?—Yes.

2425. And you have been a very long time in the business?—Forty-one years.

2426. Your business is between what ports?—Between the ports of Dublin and Liverpool I have travelled four times a week for 36 years, and these last four years only once a week.

2427. You must have a good deal of practical experience then?—Well, I have a knowledge of what ought to be done in a proper way, and how things should be used in a proper way.

2428. As a foreman bullock man are you in the employ of the steamers, or who?—I was in the employ of the owner of the cattle, to whom I applied for my payment, and nobody else.

2429. So that you took charge of the shippers' cattle?—Yes, and then I had a certain office, or place to go to, to draw my money in his name.

2430. That is a very important part of the business doubtless, but who gave you orders on board the ship?—The owner is conscious that I always have his stock in charge, and as long as I have them in charge he always felt satisfied, and always paid me.

2431. Do the same owners generally ship by the same vessel?—Oh no; I am known all over Ireland; I have as many connexions as there are hairs in my head.

2432. Did you go in the same vessel always?—No, I have travelled in every vessel belonging to the City of Dublin Company since 1852, and I was the first man that went with cattle to America in 1854, and I travelled 1,800 miles with my cargo.

2433. What is your duty on board ship?—My duty is simply to get the cattle to the ship, and when I get them there, wherever they are wanted to go in the ship I let them go there. I object to go on beating the cattle about if they can be got down without beating.

2434. Did you receive the cattle on shore, and put them on board ship, or did your duties commence on the ship?—After I have seen them on board ship I go with them 124 nautical miles between Dublin and Liverpool, and I deliver them from the ship on to the pierhead, and see them selected.

2435. How many men have you under you?—Three or two, as the case might require.

2436. State how many cattle there would be?—There is not a ship in the dock that would take more than 400, and there would be three men to that, and they are not as a rule loaded all through with cattle, for the cattle are generally confined to the two after holds, the lower hold, and the 'tween decks, and the ship's deck. When there are no cattle to go in these holds, the ship is obliged to be kept down to get away the quantity of stuff there. It would actually take 10 boats a week, from the middle of August to December, to clear away only the Dublin Company's connection. I am only speaking of my own knowledge. I have seen them from the Quakers' opposition down to 1856, and I have always seen the Dublin Company's boats in a fair loading way.

2437. You have been a great advocate for the kindly treatment of animals. Would you prevent your men

but in some cases they will not slaughter them for fear they are not insured, and the owner would, perhaps, make the ship liable, and keep them till the ship arrives here.

2420. Has no one the power to order them to be slaughtered?—Not that we are aware of.

2421. I suppose that is the same thing; the same defects exist in the law with respect to horses, for instance, if they meet with serious accidents in the streets?—The principle is exactly the same.

2422. (Mr. Cullen.) As to the ladders not standing at an angle above 25°, what do you say?—I do not speak positively, they vary.

2423. That is the most, is it not?—That is as near as I can tell without measuring them.

beating them?—If I might be allowed to make a suggestion, I should say that every man in charge of cattle should have a prod on the end of his stick, and that stick should not be thicker than my third finger, and it would prevent a man, when out of temper, and in a passion, and with perhaps a little drop of spirits in him, going down into the hold, and giving the beasts a prod. Without the prod he would belabour the animal. As soon as the vessel gets to Liverpool it is made fast alongside. If the length of the stick were laid on the back, and if I had them in charge, they would come to me and say, "I had to slaughter them" and they were all beaten with a stick." "Well," I would say, "they did not get it with me, because I am not in the habit of allowing my men to beat cattle with a stick. Sooner than that I would beat them myself."

2438. You spoke about being very careful not to exceed the size of your third finger?—Yes; some of them are thicker than my two fingers, and they do not spare the beast when they get in a passion. The beasts do not want it, and it is not wanted amongst the beasts.

2439. Is there much tail twisting?—There is an occasional time when tails have to be twisted; first of all you cannot control the tide; say it is 12 o'clock in the day; here is the ship, there is a number of cattle in the yard, and they are divided to whatever part of the ship they are wanted. Well, when the vessel is loaded, if there is not enough cattle on one side down goes the ship quite naturally. Then the stage goes down, and when the cattle see that they have to go down you are obliged to twist their tails to get them down. They will not naturally go down an incline, but they will go up one.

2440. You think that there is no help for it but to twist their tails?—There are some stupid animals that you cannot even get up, and you take them by the bottom of the tail, you give it a twist, and there is a small joint which gives a crack, just like my finger, that way, and you will break the small joint, and the beast will jump up. If you were to beat them till they were all blue they would not get up.

2441. Do you think that this breaking of the small joint is consistent with your other humane ideas?—The contracting of the small joint you mean; that is only when it is compulsory, when the beast will not shift for anything else.

2442. Is there much of that done; you judge that the small joint is broken?—The tail is bent, not broken; there is a gristle joint between its tail, the same as there is in my finger joint, and when you crack that the gristle goes, but the tail does not go out of its position, but the gristle goes; when the beast gets the gristle hurt up she jumps.

2443. You never have complaints from the owners about the tails?—Yes, because there are such instances that those tails are badly twisted and break the skin and bleed. I have seen them so that they have had to be lapped round to keep the Humane people from seeing it. The Humane people would not allow them on board the ship. If the Liverpool Humane people saw the tail bleeding they would fine me 40s. and costs for bringing her at all.

2444. Have you used the goad; you spoke of a stick?—A stick with a prod in the end the size of a grain of

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wheat. The reason why I have had complaints about that is, when the prod is too sharp it goes through the hide. A rough prod about the length of a grain of wheat would make the beast eerie, but it would not go through the hide; it is far better to do that than to lay the stick along her back and destroy the carcase altogether.

2445. We have heard a good deal about the ventilation in cattle ships being defective; is there air enough between the 'tween decks and the lower holds?—There is a capacity of air, but if you have the wind ahead, and get the foul air out, your cattle are always cool, because the fresh air is stronger than the cattle's breath, and if you force it against the cattle in the ship's hold you smother them; with the draught of the ship itself, the hold is always clear.

2446. You have not had any great complaints then?—I have never had a complaint to lodge in any possible way. I do not wish to make any eulogium, but the people would not allow it to be done. They would not allow their vessels to be overcrowded.

2447. How many cattle does one of the ordinary pens take in?—Well, the lower holds of the cattle-boat "Leitrim" takes four sevens and eight, two sixes and two eights; that goes alongside the ship. Then in the 'midships, on the hatch abaft the stage between the pens on the ships' sides, she will take six or seven beasts, that is, providing that they are of a moderate run of cattle, and are not of a large size.

2448. It has been suggested to us that cattle should be graded, that there is a great deal of mischief from taking the little—packing the little with the big beasts?—It is a very bad practice. I always select my cattle, and get my small cattle in the capacity of the ship that will hold them comfortably, and when I get length I keep them so as to have length all through.

2449. Do you think that there should be a greater subdivision of the pens, having the pens only to hold three or four cattle; do you think that would be a great improvement?—If you said six boards between 10 cattle within the space of these six boards you would have 10 cattle, but between the 10 cattle the bottom board and the top board, then you would have 10 cattle divided with two boards, six boards to protect them, two behind them, and six on the rails.

2450. We were told that whenever a beast got down you had to climb over the backs of the animals to get at it?—That is not the way, to get over their backs. The best way in the world to do it is to unship one board and take the beast out, and then stop further mashing and murdering. I have seen a beast go down, throw herself down, and throw her hoofs out, and I have had to leap out of the pen for fear of getting killed; some of them are very vicious cattle.

2451. Do all your colleagues in the trade, the bullock men, adopt your system?—I have no connexion with anybody else. I have no control over those people.

2452. I merely wished to know what was the custom of the trade, those who are not so conscientious as yourself?—Their employers pay them weekly wages, and they have to bring the cattle from the fields down to the North Wall, and they have to go across with them to Liverpool, and go out with them to grass. Nobody has the control of these men, only the man who is paying them. If you said to one of those men on board ship, "Why do not you go down to the beasts?" they would tell you to go and mind your own business. What are you to do then? Well, of course that only occurs on the boat, then when the beasts get ashore in the streets of Liverpool you see the stick marks on them. There are three places where they get these bruises. First, there is the fair in Ireland. For instance, I might go and buy 30, or 40, or 50 heifers, and have them sent to North Wall, to the city of Dublin, and I telegraph the time that they are to get there. Well, they are met at the railway station, and the man says, "Go down with those 50 heifers, you and that fellow there." These fellows do not care one dash. These fellows have two sticks; both of them go as far as they can go down to the railway and they arrive at 9 o'clock in the morning. Somebody is there before them, and they say they want three or four waggons, and they are put into the waggons, and somebody comes along and says, "You take them cattle out of that." "You come and put them out yourself," says the fellows. Then they go to work, and they belabour each other's cattle, but unfortunately the cattle get the whole of it. The man does not care

a threepenny bit so long as he gets half-a-crown. Of course they leave them at the railway. The owner knows nothing more about them, and after placing that confidence in them, and asking them to do the whole thing, the cattle come along, and they are loaded on board the boats. Now, supposing that they never got one tap, which I do not mean to say they do not get a deserving one, and it may be an undeserving one in many instances; but as sure as those cattle are landed, and the jobber comes to sell in Liverpool, the man that buys them, when he comes to strip those cattle, would say to the owner, "Where did you get those cattle?" He would say at such and such a place. "Well, the next cattle I buy from you I wish you luck." "Why, what was the matter?" "Why, the matter was the illusage on board the boats." "Oh, on board the boats again. I drove those cattle to the railway, I looked after them myself, and I would not believe that they were ever touched." And so the whole blame is thrown on the shipping company.

2453. But no reasonable kind of dealer would do that. Have you taken cattle from the fair?—No, I have not; but I have had experience from those who did.

2454. I want to know; you get a lot of cattle brought up from the fairs to Dublin, do you not?—Yes.

2455. They probably have not had food for 12 or 24 hours?—Quite so, from the west of Ireland.

2456. They probably would not have had food for 24 hours?—I do not suppose they would. They would be boxed on Friday in the afternoon, or midday, and get none till they come in the Dublin company's yard. They always write to give them some hay. They get hay, and plenty of water to drink—a bellyful, and they are obliged to be kept till the hay is eaten.

2457. Is that the case with all the companies?—I know nothing at all about any other companies. I have never had any experience of any other company.

2458. You think they are well fed before being shipped?—If the owner goes to the expense of giving them all hay. If he says they are not to give them hay the cattle, of course, get nothing.

2459. I want to know from you, as an experienced member of the profession, whether a number of cattle are shipped fasting—you say it is at the owner's choice—or whether they are mostly fed before being put on board?—They are not fed unless the owners write for a hundredweight, or half a hundredweight, when the people would give them hay. He writes it out in his letter.

2460. I want to know whether a large proportion of the cattle are foddered and watered by order of their owners before being put on board?—Not a large quantity of them do that. It is only generally the cattle that come from the west of Ireland, where they have been on a long journey from the day before, and then, of course, the owner writes to the man who is to receive them. "Give the cattle a hundredweight or two hundredweights of hay," and if he says, "Give my cattle no hay," the cattle get no hay.

2461. I suppose on board ship there are no means of feeding or watering?—I never had such a job as at Holyhead along with a vessel. The cattle could not actually use the hay, and the ship's dimensions at the present time would have to be allowed out flat; and then there would be a small manger to put hay in to enable the cattle to be fed on the way. The cattle would not mind eating the hay.

2462. You said you had a job at Holyhead at feeding cattle on board ship?—Yes, but the ship went into the harbour, and we could not get out owing to the stress of weather, and then there was hay got, and the cattle ate it and were glad to get it.

2463. You have not ever had anything to do in connexion with those American cattle ships?—Not more than to go to America in a sailing ship. I have no connexion at all with them.

2464. You have spoken about the inefficiency of some of the members of your profession?—Yes.

2465. Have you heard of a proposal that has been made to us that cattlemen should be licensed? Would you approve of it?—Well, it is not for me to give an opinion upon that. I do not think I am large enough to give an opinion upon it.

2466. Would you consider it an interference with the liberty of the subject?—I would not pass an opinion, for I would leave that for higher heads.

2467. We should like to know?—You must excuse me, I will not submit an opinion. I would not get into a knotty question, because I might a lick on the back of the head that would knock me upside down.

2468. But you have not considered the question, or perhaps you have too strong an idea upon it. I am told that the cattle drovers in the Liverpool market are all licensed?—It is since I left there then the order has been issued, because I did not see any badges last Monday.

2469. (*Sir William Kaye.*) It is in Glasgow where they are licensed. You have been 41 years in this business you say?—I have.

2470. And you commenced it on the other side of the water?—I commenced in the city of Dublin.

2471. Are you a native of Dublin?—I am.

2472. You know these pens and the arrangements of the City of Dublin Company at the North Wall for cattle arriving?—I know them.

2473. Do not you think they are very good?—I do not think there is anything to better them or mend them.

2474. Do you think it would be necessary for cattle on board ship that they should be tied up in these pens to be fed?—You would want half a regiment to do that, and the owners would not do it, and the men would not do it for nothing.

2475. And you might miss the markets on the other side by reason of it?—It would take a long time, and the vessel would be kept waiting, and perhaps other little ins and outs of difficulties would arise, and it would not act so well.

2476. You take charge of the cattle from the time that they arrive at North Wall?—I do. I take charge of them from the time that they arrive until they go on board ship.

2477. When on board ship they are under your control?—Yes.

2478. The officers do not control them?—They have the ship to look after, and it would annoy them, and the ship is enough for them.

2479. Any arrangement that you choose to make with reference to their grading you do?—I can do it because I do it for the benefit and welfare of the animals.

2480. What do you think of cattle being tied on board ship going across from Dublin to Liverpool? Do you think that that would be an improvement?—Tie them?

2481. Yes?—From Dublin to Liverpool?

2482. Yes. How are they tied?—Each animal is tied by the horns to a ring in the ship's side, and if she plunges and tightens the rope, all that the man has to do is to unloose her.

2483. Is that an arrangement sufficient for the purpose? Could you suggest any improvement upon that?—I do not know of any that I can suggest in any form or manner that I can see. The rope is not a thin rope, so that it does not chafe the horns; it is a regular rope, and will not squeeze the beast in; if you had a narrow rope it would put the animal in great pain; she would take a big jump, and then you could not save her.

2484. Have you been in charge of cattle going across when any of them met with an accident, and got a broken leg?—I have.

2485. Had you any difficulty in getting to that beast?—I had not the slightest difficulty, because I could take a beast or two out, and I had space in other pens which left that beast room, and if I sent to the captain or the mate and told him that a beast had broken its leg he would say, "Very well, we will get " the derrick, and get the sling round her and heave " her up on deck," and she would have to be killed on the ship. I dare not take her with a broken leg to Liverpool.

2486. Have you any difficulty with that?—If they do not kill her I would kill her myself, I am not going to pay 40s. and costs; I would be fined 40s. and costs; I would be summoned.

2487. That is, by the Humane people?—Exactly.

2488. Have you ever been summoned?—I have never been before a magistrate since I was born.

2489. But you have known the Humane people?—Oh, bedad, I do, and I get him killed. I would not let him go ashore.

2490. Why would you be fined 40s. if the accident took place on board, and did not take place on shore?—Simply because I had no right to keep it in pain, and to bring it ashore alive.

2491. You should have slaughtered it at once?—I should have taken the life out of him, and then he would have had no feeling. If I threw it overboard I would have to pay for the whole carcase, and I would not be allowed for that.

2492. (*Mr. Watson.*) Only one thing. You say that the beasts are made tight to rings on the ship's side?—Yes.

2493. Would you say that is a right way of doing it?—I never knew that to be wrong. I always thought it right.

2494. Do you think it would be an improvement if they were turned the other way, with the beast's heads towards the middle and the tails to the side?—You know the wind is not always blowing ahead; it is sometimes on the port beam and sometimes on the starboard beam. If you put the beast's heads to the midships you see them going head over heel over the boards, but if their heads are to the port side they can only go to the port side.

2495. Do you think they are better as they are at present?—Yes; they would carry away the boards, and the pressure of the cattle would smash the boards, and they would smother themselves in the face; but while their heads are to the ship's side, when the ship rolls they hold on.

2496. Did you ever hear of a beast going mad?—Many a one.

2497. From what cause?—Nobody could assign the cause.

2498. It is not caused in connexion with the loading?—No, because I have never seen it in connexion with the loading, but I have seen beasts mad and jump into the river and be dragged out and be brought to Liverpool afterwards. And more than that, I wish to say that if I wish to bring cattle to me, I do not take a stick to them. If I go down the ship's hold they can notice what you are going down there for, and they will come to you; but if you go down with a stick everyone of them will be in a fright, and afraid that they are all going to get it.

2499. Do you find any difficulty in getting them down below?—Some of them are stubborn and will not go. There are odd cases, and they will not go down, and these cattle that will not go down are left in the 'tween decks, and those that will not go off the deck are forced down below to prevent them being abused.

2500. (*Mr. Cullen.*) I understand there are very often other men managing cattle on board besides you on the same ship?—Plenty of them.

2501. Some of them are very efficient?—Very deficient you mean, that is, deficient of their duty.

2502. With reference to yourself, would not it be a great improvement to have efficient men in their stead, to have efficient men to do the work?—You must consider this, that the company in all their carriages are not solely dependent upon the graziers; they have the dealer-man to contend with, and you cannot pick them to have men to suit your ideas or mind either.

2503. Would not it be better to have efficient men?—You cannot get efficient men. Some men will get drunk. I kept sober for 24 years, and perhaps no other man than myself did that, because I had a delight for my own character, and my own benefit's sake.

2504. If we get some better men would not it be better?—How are you going to get them? It is very hard to get them.

2505. But it appears to me that we want efficient men to take care of these cattle, and inefficient men do not take care of them?—It is the case.

2506. And it would be desirable to have efficient men if they could be had?—If they could be had.

2507. What is the largest number of men in charge of cattle independent of you on board ship?—I have seen six or seven on board. But these were all dealers' men, and dealers' cattle, and there was nobody to control or see to them; they were simply there.

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2508. And nobody had any control over them?—They would not allow anyone to have any control, because nobody else paid them. They were paid for by such and such a man, and if you said anything, supposing I was down in the lower hold, and I had half the lower hold, and I went down to mind my own half, and I had seen some of his in a bad way, and I told him that these cattle were mashing themselves about and he had better go down and look after them, he would tell me to go and mind my own business.

2509. There was no control?—There was none over the dealers' men at all.

2510. Then it would be a great matter if there were efficient men in their place?—Yes, if you could get them.

2511. Supposing these men had different opinions about trimming the ship with the cattle and in the bad weather, when there had been no head to manage the captain would have no control over them?—The captain or master of the ship, if he wants his ship trimmed, he will have her trimmed, and if you do not do it he will simply send down the watch and put five or six beasts over to trim the vessel. If the vessel has a list when she is on the list the action of the machinery is likely to set fire to the vessel, and break her up. You must get a vessel on a level keel to work her in good proper order. The shaft has to be continually working, and the ship would go on fire or break up if she had a list.

2512. Efficient men would be desirable?—I would say so if they could be had.

2513. (*Mr. Parker Smith.*) I understand that you work only for the City of Dublin boats?—That is so.

2514. Are you the dealers' man, or are you employed by the company?—I am a public man. I have no man for my master.

2515. Who pays you, the company or the owner of the cattle?—The owner of the cattle.

2516. But you only work on the City of Dublin boats?—Yes.

2517. You are only speaking of the City of Dublin boats?—Yes.

2518. And you say your beasts are tied so that you can always get at them?—Yes.

2519. If a beast gets down can you get at it?—There is enough space overhead.

2520. But you need not climb over?—You have nothing to do but to put your foot on the board, get the foot on the bottom board and stand up, and if you want to unship that fore and aft, you have ample room in the midships to do so. You take the beast and it goes along the hatchway and so through the ship; you utilise your judgment.

2521. That is very satisfactory for the City of Dublin boats but you cannot say that of the other boats?—I have nothing to say about anyone else. I have no experience of anybody else's boats.

2522. About the ventilation. You say there is plenty of fresh air when the wind is ahead; you would not say that when the wind is astern, when there is no wind?—The vessel will make wind.

2523. But if there is enough of wind astern to make no wind?—Then you reverse the ventilators.

2524. Will the foul air go out?—Yes, because the suction of the ventilators will take the foul air out of the ship, and once it is got out there is no heat in the ship. The ventilator will swing away round anyhow.

2525. And you can always swing it round?—Anyway. There are generally four ventilators, and it would not at to put them all to the wind.

2526. The ventilators enable you to ensure fresh air for the beasts?—Yes.

2527. The beasts never suffer from want of air?—You have a wind sail on board the ship. All that you have to do is to drop it into the hold and you put it up.

2528. With that wind sail and the ventilators you are quite satisfied with the ventilation?—Quite satisfied, and we can always work with them because I know how to work them.

2529. (*Major Tennant.*) You have often had charge of dishorned cattle, have you not?—I have.

2530. Do they travel better than horned cattle, or not?—Better than horned cattle? Well, I will tell you how they do travel. If you had eight pollies in a pen by themselves, unless it is very smooth weather, and the vessel begins to roll, they will nip over their board unless you have them all together. If not, as soon as the ship rolls, they go up the ship's side and down they come again. They work themselves the same as a lot of pigs, in a manner of speaking, through each other to get a more ample place, and they know no better, and through this action they fall back and the beast is bruised, while the horned beast is in the one position.

2531. You think that the horned cattle are, therefore, better than the dishorned?—They get less abuse, because, as I pointed out, you have the heads of the horned cattle in one position, and you are able to benefit them by the ventilators. With the "polly" cattle you have not them in one position, because they are working, and they are always going about.

2532. Supposing they are young cattle and not tied up?—That is what they do with store cattle, but store cattle are able to rest and bring themselves to.

2533. I am talking about dishorning; when you get dishorned stores that are not tied up, will they be better or worse than horned stores?—They will create a greater heat in the hold, they go about fuming with their own natural exercise, and they keep on a continuation of the working that blinds you and takes the sight out of your eyes.

2534. In some vessels they carry on three decks, one above the other?—Where?

2535. They carry in some ships on three decks?—Not in the Dublin Company.

2536. Never in three?—Not in three.

2537. Not in the lower hold, between decks, and open deck?—There is a lower hold between decks, and the main decks, but they always do not carry on the top of the main deck; they put sheep as much as possible on them.

2538. Do you think that sheep or cattle travel better if they are only carried on two decks rather than on three decks?—On two decks.

2539. Would they be carried better on two decks instead of three decks?—What sort of middle would the ship be?

2540. I want you to tell me?—I cannot tell you because if there are two decks you have no keel for the ship, or else if you have an empty keel below, there would be a bias.

2541. There are great complaints made about the injury done to cattle on board the ship, are there not?—There are.

2542. Do you think that injury is attributable to the fault of the ship, the fault of the method in carrying the animals, or is it due to the want of care in the men in charge?—It is not attributable to the mismanagement of the officers or to the carrying capacity of the ship in any shape or form.

2543. It is due to the men, you think?—That is another thing I cannot give an answer to.

2544. (*Mr. Watson.*) It is not due to the ship?—It is not due to the ship; I never knew it to be due to the ship.

The witness withdrew.

Adjourned to Tuesday next at 12 o'clock.

FIFTH DAY.

At No. 23, Great George Street, Westminster, S.W.

Tuesday, 10th April 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. W. FIELD, M.P.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.

Mr. INGRAM B. WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Professor JAMES McCALL called and examined.

2545. (*Chairman*.) You are principal of the Veterinary College at Glasgow, I believe?—I am.

2546. And you have been in practice as a veterinary surgeon for what number of years would you say?—35 years.

2547. You have been a teacher of veterinary medicine and surgery for how long?—33 years.

2548. Now what official position do you hold in Glasgow?—I am inspector for the local authority in Glasgow, and inspector for the Board of Agriculture at Glasgow.

2549. In what way do the duties attached to these positions bring you in contact with the cattle brought over by sea to Glasgow, or the Irish cattle trade we will say?—When we had foot-and-mouth disease very prevalent, I was sent over by the local authorities of Scotland to draw cordons in Ireland in order to bring healthy cattle out of healthy districts under certain regulations.

2550. Are you aware that our reference does not extend to the prevention of disease?—I thought you were wanting me to say how I came to know about the Irish trade.

2551. That is all right, thank you; will you please tell it in your own way?—In consequence of that remit I visited mostly all the ports in Ireland and drew cordons, and for about two years took an active part in the movement of cattle until the foot-and-mouth disease was extinguished.

2552. In that way I presume you made yourself thoroughly familiar with the arrangements?—With the Irish traffic in Ireland. Then, of course, I see traffic that is going on in Scotland, and I make it a point, also, now and again to examine the steamers which are in connexion with the Irish trade, and which are landing cattle at Glasgow.

2553. In connexion with that, what powers have you?—We have no powers in special to deal with cattle further than to see that the gangways are kept clean.

2554. What powers have you respecting the vessels, have you power to enter?—We have no power unless the local authority of Glasgow were to make regulations. For example, dealing with foot-and-mouth or some other disease, we could then make regulations as we do, prescribing the route the cattle were to take from the steamers to the railways, and such like.

2555. But when there is no disease you have no power?—We have no power.

2556. Would you please give us any observations that you may consider germane respecting the treatment of cattle at the Irish ports?—I think, in the first place, that there should be a veterinary surgeon or some official at the ports where the cattle are put on board the ship.

2557. In order to see that the orders of the Board of Agriculture are enforced?—Exactly so.

2558. In what way do you think that they are not enforced, in what respects?—I understand that cattle,

for example, may be put on board long before the steamer sails; in fact I am told—I do not know it as a fact myself—that cattle are sometimes put on board the steamer six hours before she sails.

2559. Did you make any observations as to the extent to which cattle were fed and watered on their arrival at the Irish ports?—Some of the cattle go into sheds and are fed, but I have seen cattle coming off the railways being put on board direct, the moment they arrived.

2560. Did you make any inquiries as to the length of time during which they have been without food or water?—No, I did not.

2561. Did you observe among the cattle which you saw embarked any that appeared to be so weakened by previous travel as to render them exceptionally liable to injury on board ship?—I thought that several of the animals which I had seen would have been better if they had been rested instead of being put on board the steamer at once.

2562. Do you think that there is a necessity for additional accommodation for their resting and feeding at the ports of embarkation?—Personally, I cannot speak to the extent of the provisions adopted at the present moment in Ireland, when I was there there were extensive lairages.

2563. I asked you that because you say in your proof that reception lairs should be provided in all ports, and licensed, and that charges should be fixed?—Yes, I do.

2564. Does that indicate that there is a want of that, in your opinion, in the Irish ports?—I cannot say positively that there is a want, but I know as a fact that cattle may be put on board a ship without entering these lairages.

2565. Then does that recommendation apply to Ireland only, or to this side also?—We have no lairages at this side. In the first place, we do not send any cattle from Glasgow to Ireland.

2566. I mean on their debarkation?—There are no lairages at Glasgow specially set apart for the cattle when they land, but a great many live stock agents have got lairages of their own where the cattle can be taken to, and the railway stations have also got lairages.

2567. Returning to the Irish ports, do you consider that power should be given to the inspector to detain for six or 12 hours any animal which he considers requires rest and food?—Yes; my reason for that power is this: that there might be animals that only come from sheds in the town where they are going to be put on board the steamers, or they may have come from some very short distance out of town, and it is unnecessary that they should go into the lairs under these circumstances, but if you give an inspector power to detain an animal for six or 12 hours, then he could deal with these cases or with any other case, that is to say, animals that he thought were fit to go on should be allowed to go on without going into the lairages, or

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on the other hand, if he thought them not fit to go on then they could be detained.

2568. I presume the inspectors you propose to entrust this power to would be veterinary surgeons?—I think so. In my opinion the inspector ought to be a veterinary surgeon, that is, a man who is practically acquainted with the trade and with diseases in animals.

2569. Then you think that cattle should not be put on board steamer earlier than two hours before sailing time?—I think not.

2570. If you run the time of embarkation too short are you not apt to have a great deal of hurry and persunasion, as they call it, that is to say, beating and tail twisting, and that sort of thing, in order to make them enter the ship?—I think so far as I have observed they are always in a hurry to get the animals on and get them off. I have never seen the thing done leisurely at any time.

2571. I see that you recommend also that the electric light should be provided for the examination of the cattle in the evening when the days are too short?—Yes.

2572. You are aware, I suppose, that that is provided at many ports?—I am aware that it is provided at some. I am not aware that it is provided at all the ports. One of the reasons that is given sometimes for the animals being on board six more hours is because they have not got daylight to examine them later on.

2573. Then you think that steamers should be licensed to carry so many head of cattle?—Yes.

2574. Do you consider that it would be better to fix the number than simply to make arrangements as to the size of the pens as at present?—It would come to much the same thing, you know, because, of course, you could put a larger number of small cattle than you could put of large cattle into a pen.

2575. Yes, that is exactly the point I was driving at?—So that probably it would be as well to license according to the space.

2576. Would it be practicable in your opinion to grade the cattle, as has been suggested to us?—I think so. I do not suppose that as a rule there is more than 400 head of cattle on board a steamer plying from Ireland to Glasgow, and I think there would be no great difficulty in grading them.

2577. Then you say the steamers should be ventilated up to certain requirements?—Yes.

2578. There is a provision at the present moment for sufficient ventilation, but there appears to be no definition on that point, and consequently the law is said to be not enforced, at any rate that has been alleged to us. It has been suggested to us that the ventilation should be defined as so many cubic feet per hour per head of cattle. Now you, as a scientific veterinary surgeon, might be able to give us some idea of the amount of ventilation that is required, in your opinion, per head of cattle per hour?—I do not think that on the steamer you could deal with the question by cubic space, because it is different from a permanent building.

2579. I do not mean cubic space, but supposing you had a fan giving so many cubic feet per hour would that be practicable?—I am no authority upon the subject of ventilation, that is to say, I am not a scientific man upon that point. I think it is very difficult to ventilate a steamer, because I have never yet been on board a steamer where, if it was close weather, the ventilation was anything like complete, and I have never seen a steamer fitted up in such a way as to satisfy me that there was a sufficient current of air passing along.

2580. You suggest, I see, that a Shiel's fan, or rather you say a Shiel's fan is recommended for exhausting the foul air, and changing it every five minutes for fresh air?—Yes, but I have not seen that in operation myself.

2581. What do you mean by that passage in your proof; do you mean that you recommend it?—No, I do not. That has been recommended to me. I have not seen it in operation; but you will have a witness here to-day I understand, Mr. Nelson, who has seen it in operation, and he will be able to explain it all.

2582. You speak of changing the air every five minutes; do you mean sweeping out the whole air in the hold, for instance, or in the 'tween decks?—What I am informed is that it exhausts the foul air, and then

as a consequence fresh air rushes in to take its place, but I do not know anything about the mechanism of it myself personally.

2583. And as a matter of fact you do not feel in a position to suggest any standard of cubic feet per hour as recommended?—No, I could not do so without thinking over the matter.

2584. Then you suggest that cattle of two years of age and over should be tied up—is that not generally the practice now?—No, and even the tying up is sometimes very peculiar. You will find as I found the other day, some cattle tied athwart ships and others in the same pen tied in the opposite direction, so that there was the head of one cattle at the tail of another.

2585. You say you found it the other day?—Yes.

2586. Where?—At Glasgow.

2587. Then have you frequently found it?—No, I have not frequently found it. I more frequently find them not tied up at all.

2588. Will you please explain the evils of tying them with their heads in different directions?—You have the head of one animal in this position (*describing*), and you have the head of another animal in *that* position, and they are tied close to one another, so that the faeces and what not that drop from one animal are bound to come upon the head of the other one. If there is nothing else but that alone, it is certainly very wrong.

2589. Does it expose them more to injury from their horns?—Well, I should think it would because the head of the animal tied the other way would have its horn right in the flank of the other; they should all be tied with the head either in one direction or the other, athwart ships or the opposite. I think it would be well to have a provision for them to be tied in both ways, so that in calm weather they could be tied to the ships' sides, and in ordinary weather they could be tied athwart ships. I understand that they always stand easier that way.

2590. Then I see that you wish that the pens should be a sufficient size to contain six two-year olds?—Yes.

2591. They contain many more at present, do they not?—Yes, there are various sizes; some of them are 11 ft. 6 by 8 ft. 6, and you will find sometimes eight or nine or more animals in them.

2592. You also suggest that there should be battens; do you suggest that there should be battens running both ways?—Yes. The reason of that is this, that if there is a swing and the battens are placed *this* way—supposing the animal's head is *here*, if the vessel is not sailing steadily these battens are no assistance to the animal when the movement is from the one side to the other, the feet go away from the animal and spread out and there is nothing to catch upon, whereas if there were cross battens *here* then the feet of the animal would be caught *here* or caught *there*; the only objection to that is that it will be more difficult to clean the pens, more difficult to wash them out; but that, I think, might be obviated by leaving a space betwixt as they do not require to go exactly across the whole way.

2593. Then you suggest that provision should be made to enable cattle to be tied with the head to the ship's side in calm weather, and athwart ships at all other times?—Yes.

2594. What do you mean by that suggestion?—Suppose *this* to be the side of the vessel *here* in calm weather, when there is very little wind, you will get more wind, more air to travel from *that* side than you will if they had their heads in the centre of the ship; but if it is roughish weather, the ordinary weather that we have except summer weather, it would be far better to have the heads athwart ships.

2595. I should like to have your reason for that recommendation, because we have been told that you have got a very much firmer support against which to tie them if you tie them to the ship's side, but that if you had them facing towards the centre of the ship, a drover told us, for instance, that they would be apt to lurch forward and carry away all their supports and get released?—I do not agree with that; besides, all our American cattle come with their heads tied athwart ships.

2596. American cattle?—Yes, and they come in good order.

2597. And with an alley-way in front of them for feeding?—Yes, exactly, and that is what I want par-

ticularly to have. Where a bullock that is tied to the side of the steamer goes down you cannot get near him to untie him or help him upon his feet; whereas if you have him with his head turned to the centre of the vessel and a small passage or gangway in front, you can loosen the rope or help the bullock on to his feet again.

2598. Do you know any cross channel vessel fitted up in that way?—Yes, the "Olive" is partly fitted up in that way.

2599. What company does she belong to?—I think it is Laird and Company.

2600. Then she is trading between Londonderry and Glasgow?—Yes.

2601. Have you seen the cattle coming out of her?—I have.

2602. Have you found them in an improved condition owing to that?—So far as the appearance of the cattle is concerned they seemed much the same, but the provisions I speak of are there.

2603. Are these provisions taken advantage of in the "Olive" to feed or water the cattle?—I do not think that they ever feed or water them; so far as I am aware, they do not feed or water them on the passage.

2604. You suggest that cattlemen should be licensed and that there should be not fewer on board than one man to 100 cattle?—Probably that is too few, but still not fewer than one to 100.

2605. Whose servants would you think they ought to be?—I think it would be better if they were the servants of the steamship company.

2606. It is an important question, because whoever their master is he is responsible for their acts. Are we to take it that your recommendation is that they should be the servants of the steamship company?—Yes, and that their master should be the captain.

2607. Who would you have to license them?—It must be some authority.

2608. Would you have them licensed by the Board of Agriculture, or by the Board of Trade, or by the local authorities, at the ports of embarkation and debarkation, or how; perhaps you have not thought it out?—I have not thought that out, but they ought to be licensed by an authority who would not only license them but look after them after they are licensed.

2609. I suppose the idea is that if they were found guilty of any gross fault their license might be withdrawn?—Yes.

2610. Then you suggest that the captain should have complete control over the cattlemen and of all animals on board?—Yes.

2611. I suppose your desire is to make him responsible ultimately for any ill-treatment or anything that may occur?—Yes, but I think there ought to be an officer in connexion with the Board of Agriculture who takes a journey now and again with these steamers to see that the captain is doing his duty.

2612. In your capacity as an officer of the Board of Agriculture, have you ever done anything of that sort. Have you ever had any of these trips in cattle ships?—Not in the way of looking after what is going on on board, no; I never have, but I think that the captain should not be allowed just to do as he likes without having someone to look after him too.

2613. Do you suggest that the captain should have power to order the slaughter of any animal which has been severely injured?—Yes.

2614. Has he no power to do so now?—I do not know that he really has the legal power to do it, but, I believe the captain now and again does it, and I do not think that the bulk of the parties who are sending cattle would object to his doing that.

2615. Do you know what the rule is in the transatlantic trade?—No, I do not.

2616. They must have power. Do you ever come across any injured cattle in the transatlantic traffic?—We often have injured cattle landed in Glasgow and brought to the slaughter-houses from the steamers.

2617. Injured cattle from the American boats?—Yes, frequently.

2618. Landed from the Canadian and United States boats?—Yes, frequently, and we have them sometimes dead and killed on board.

2619. Killed on board?—Yes, in rough weather, and things like that.

2620. What I want to know is what powers the captain had there, and in what way their powers on board the transatlantic vessels differed from those in the cross-channel traffic?—I cannot answer that question, but I know as a fact, that we often have carcasses put off which have been disembowelled; the animal has been slaughtered and disembowelled, and then the carcass is landed and afterwards we deal with it.

2621. You deal with it, that is as to pronouncing whether it is fit for food or not?—No, I simply deal with it as to whether it is affected with a contagious disease; then it goes to the sanitary authorities, the medical officers to deal with it as to its fitness for human food.

2622. Then if it is fit for human food, the medical officer passes it?—Yes.

2623. I see you suggest that the cattlemen under no circumstances should be allowed to use a hazel stick to the animals, but when necessary, to use a goad?—Yes. My reason for that is that the hazel stick leaves a great welt alongside the animal's body; it produces extravasation, and injures the flesh very much; besides, the animal does not respond nearly so much to it as to a gentle prick.

2624. In the case of a prosecution for cruelty to animals, would you think that the free use of the stick would constitute an act of greater cruelty than the moderate use of the goad?—By far.

2625. Have you ever come across punctured skins through the use of the goad?—No, I have never seen any injury by the goad at all.

2626. Is the goad much used in Glasgow?—There is a goad being used, which I think is a most objectionable one, on the Irish steamers. It is a piece of wood with a point on it, it is ordinary wood, and they use it very harshly; they take it in their hands in this way (*describing*), and dig it into the animal. That is not the way the animals ought to be treated. The goad ought to be a very sharp point, not of any length, but long enough to just prick the skin of the animal.

2627. Have the Glasgow authorities any power over it themselves?—They have not any power, judging from what I see; they do not exercise it at all events, because if you go down to an Irish steamer you will see probably half a dozen men on board the steamer all pricking at the animal with these bits of wood to get him up, and on the quay side there are probably half a dozen men that have no connexion with it who seem to be enjoying themselves or at all events are employing themselves from want of a job, and they will be also pricking the animal in the same way and no policeman near at hand to be seen.

2628. Would the police interfere in such a case in Glasgow?—They would have power to interfere.

2629. They would, but as a matter of fact do they?—When they are present these men do not go on doing it.

2630. We were told, I think, that in Glasgow all the cattle drovers employed throughout the town were licensed by the local authority. Are you aware of that?—I cannot answer that question, but I know at all events that the drovers in the market are licensed, and very likely they are the same men who go down to the steamers.

2631. Then the drovers in the market are licensed?—Yes.

2632. Have the licensing authority any rules as to the method in which cattle shall be driven, whether with goads such as you recommend or not?—I do not know.

2633. Have you ever made any recommendations on the subject?—No, I have never been consulted on the matter, but I know they are licensed for they have a badge and a number on their arm.

2634. Can you say whether that license is suspended owing to their conduct?—I cannot speak personally to that, but I think there is a great deal of unnecessary cruelty in getting the animals off the steamer.

2635. In your opinion, I see neither food nor water are imperatively required under ordinary circumstances in a voyage from Ireland to Scotland?—I would rather

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that they had water, and probably a little hay to eat, but at the same time I do not think it is imperatively necessary. I do not think the animals suffer to any great extent. Certainly they would be better for a drink of water.

2636. Do you think that a horse or a cow would suffer from starvation and deprivation of water on the voyage?—I should say, under the circumstances, that as the cattle can stow a large quantity of food in their rumen and ruminate on board, they do not suffer, whereas the horse has such a small stomach that he would suffer.

2637. So that you think if they get a good feed before going on board they would do?—Practically. I almost think, on an ordinary journey, they had better not have either food or water on board; that is, in an ordinary journey; but then, when it is prolonged, there might be provision under those circumstances.

2638. Supposing they were once at Glasgow, is there any adequate provision for watering them there when they get off the steamer?—There is provision, if you gather it all up together; but there is no provision set aside provided by any one person and looked after. For example, the local authority in Glasgow do not make any provision at all, and the Harbour Commissioners make no provision; but at the railway stations there is water and hay; and then the salesmen themselves have lairs in the city, where a great many of the animals go.

2639. But they are kept a good long while, are they not, getting sorted out before they are sent off to the station or to these lairs?—They are not kept long, if it can be avoided. I think they are hurried out too quickly.

2640. How long would you consider a bullock could go without food without undergoing any great suffering or injury?—Certainly I want an animal to get food about every six hours, and water, too, under ordinary conditions; but I do not think a bullock will go far wrong supposing he does not get any for 24 hours if he has been well-fed beforehand.

2641. There is something to be said, is there not, as to the periodical feeding and watering in the case of cattle transported by train?—Yes, they are regularly fed.

2642. I do not know if there is really any law in it, but it is to the interest of the parties bringing over the bullocks and they have their own men there to feed them regularly?—They come in good order, beautiful order; they come as fresh as coming out of the byre, they are well fed and well attended to.

2643. Then you suggest that all cattle in Glasgow should be landed at one shed or wharf on the north side of the Clyde, and that after landing the cattle the steamer should proceed to her berth?—Yes.

2644. And that the wharf should be fitted up so as to allow of an animal to be quickly drawn and removed?—Yes.

2645. Is there any place that you would suggest as meeting the requirements?—At the present moment the cattle are unloaded at the steamers' usual berth, wherever it may be. Now the tide varies very much at Glasgow, and if we had the animals all landed at one wharf we could have a movable gangway.

2646. But as a practical point, is there any place that you could suggest as convenient for the adoption of such an arrangement?—If they will give us the space almost any place will be perfectly convenient, more particularly upon the north side of the river, because the cattle are all going to the north, and there are none of them going to the south, so that if they are put upon the south side they will require to travel round over the bridge.

2647. You have no spot in your eye when you make the suggestion?—No. The Clyde trustees tell me that they have no place to give for an ordinary shed. I do not see why they should not have space for it. We are giving them at the present time a part of the old wharf where we landed the American cattle; no doubt they are giving us an equivalent for that; ground further up, where we have built upon; but the place where the old building is at the present moment would suit very well for unloading all the Irish cattle.

2648. You suggest, I see, that there should be a pivot gangway to be worked by a crane to be used in loading and unloading the animals?—Yes.

2649. That is the first suggestion we have had to that effect. I think; will you describe what you mean?—(Describing.) Supposing this to be a shed here, and this is the river; this movable gangway is fixed to a pivot at the centre point here, and then you can lower it with the crane down to the requirements, according to whether the tide is at high water or low water, and in that way you facilitate the animals getting off, and they will be got off in half the time, and almost without requiring to apply the goad to them.

2650. Where is that arrangement to be seen at work?—I do not know whether it is a perfect one or not, but I understand there is a pivot gangway at Greenock. You will also get information on that point from Mr. Nelson.

2651. Are there many Irish cattle landed at Greenock, do you know?—Very few. The reason why there are so few is that they require to pay the carriage up to Glasgow.

2652. And yet they have made that arrangement for landing the cattle there?—I am told so, but I have not seen it myself.

2653. You suggest that for fat cattle for Glasgow there should be no detention on arrival?—Yes; there is no need, because they go to the market, or go to the dealers' yard direct, and they get everything that they are needing there.

2654. In connexion with the feeding of cattle some witnesses told us that it was the custom of the trade that they should keep the animal without food for 24 hours before slaughter. Is that the custom in Glasgow, do you know?—No, I do not think so, because there are very few fat cattle go direct from the steamers' side to the slaughter-house; they go to the cattle dealers' yards, and probably remain there a day or so before they go into the market to be sold, and they have them always in good order and well fed. After they go into the slaughter-house they may be kept 24 hours before they are killed.

2655. That is what I referred to?—They may; I do not know it as a fact.

2656. We were told that that was done for the purpose of getting their flesh into better condition?—There is no doubt that the flesh keeps better if the animal fasts for some time.

2657. That is a scientific fact, is it?—Yes.

2658. Store cattle, you say, should be detained, and fed and watered before leaving the city?—I think the store trade should be dealt with entirely differently from the fat trade. There are no store cattle sold in Glasgow, there is no market for them; they are all in course of movement to some place further on, and if you allow these store cattle to go into the dealers' yards, or to go anywhere to be fed, then you will not know whether they are fed or not.

2659. According to your experience would you say that store cattle suffer as much deterioration in the transit as fat cattle?—I think they suffer more.

2660. We have been told that the average deterioration suffered by fat cattle coming across is as high as 30s., I think one witness said, but it has been stated repeatedly at 20s. by others, and by others it has been put at as low as 10s.; what is your idea?—I think they are not placing it too high.

2661. At what?—At 20s. to 30s. each.

2662. 20s. to 30s. ?—Yes.

2663. Do you say it would be more in store cattle?—More. These store cattle, as a rule, do no good for a fortnight or three weeks after they arrive at the farm where they are to be fed. They are bruised, and hot, and sore, and they do not feed. They do not put on any condition for a month.

2664. Then I suppose the loss on the store cattle is, proportionately, much greater than on fat cattle?—I think it is.

2665. Because they are of less value to commence with?—That is it.

2666. Are the existing provisions sufficient to meet the requirements as to feeding and watering?—Yes, they are if they were carried out.

2667. In what way are they not carried out?—The provisions at the present time are at the railway stations—there are sheds there.

2668. So you have explained?—Sheds, and hay and water, and everything that is needed, but it frequently

happens that the steamer does not keep her time, and these cattle require to move on, it may be to Perth or some other sale, and unless they catch this train that is going off just now they would not be in time for the sale, and the consequence is that they are put on the railway trucks and away they go, and never even get watered or fed.

2669. And they may have had a similar experience before being embarked, I suppose, on the other side?—Exactly.

2670. And after they arrive at the market to which they are being sent, I suppose they may be a good long time before getting to their lairs?—They are, I know.

2671. Do a large number of cattle arrive in Glasgow on Sunday?—A considerable number.

2672. More than on week days?—I do not know about the Irish trade in that, but there are more Canadian and American cattle arriving on Sunday than on any other day—that is our busiest day.

2673. We were told, I think, that in Liverpool Sunday is a very busy day, and that is why I asked you. Do you know whether in the case of cattle arriving on a Sunday the arrangements are better or worse than in the case of cattle arriving on a week day?—I could not say.

2674. I happened to be last Sunday in Glasgow, and I saw a lot of cattle being driven through the street, rushing at every pool of water in the street, and being beaten away?—Yes, you see that every day.

2675. Is that a common thing?—You see that every day. There is water provided at the harbour side, but the dealers' men, I suppose, are recommended by their masters not to allow them to drink.

2676. They will not allow them to drink?—No.

2677. Why?—They say the animals are very apt to founder, to get laminitis and diarrhoea, and such like, and they are perfectly right.

2678. That is scientifically true then, is it?—Yes, if they would only take a moderate amount of water, a tumbler full of it, they would be better for it, but instead of that the animals drink and drink until they hurt themselves.

2679. That might be arranged for, might it not?—Yes, and that is why I should like to explain this. There ought to be provision made for these cattle to be fed and watered, and the question comes to be where is that accommodation to be found? Some say it should be found at the harbour side, and I say no; that is not the place for it at all. The cattle should travel a mile first. If it is warm weather, and they are perspiring when they come off the steamer, they are the better for the walk because they cool down; if it is cold weather, and they are trembling, again they are better for the walk, as it warms them up. It is all the better for them when they go up to their berth if they can get a little tepid water and a sufficiency of hay.

2680. When they go to the lairages they do not get tepid water, I suppose?—They do not.

2681. And they get it from the trough as much as they like?—Exactly.

2682. So that any danger of diarrhoea and laminitis is just as great there?—If they allow them to do it.

2683. But, I suppose, they do not prevent them when they once get into their lairs?—Yes, they do; the water is not, as a rule, in the pens where the cattle are put. It is in the passage when they go in, and they get a drink when they go in.

2684. Are they beaten off and not allowed to drink too much?—There is not much chance then of their drinking too much water, but they would hurt themselves if they were allowed to drink as much as they would drink, because they do not know any better than to satisfy their craving for water.

2685. In the case of proceedings being taken in Scotland they may come before the justices of the peace and the sheriff's court; is that so?—Yes.

2686. Which do you think they generally come before?—First, we used to try the cases before the justices of the peace's court, but we found it would be better before the sheriff's court.

2687. What cases have you chiefly tried?—Summonses for breaches of regulations.

2688. What regulations?—Pleuro-pneumonia, and foot-and-mouth, and such like.

2689. Never in connexion with this matter?—No, not in connexion with this.

2690. You have nothing whatever to do, officially, with cruelty to animals?—No.

2691. What is your opinion about dishorning?—Well, it is a cruel operation, but at the same time, of course, it makes that animal so that he cannot injure his fellows in the way he could do with his horns on.

2692. What is the interpretation of the law as to dishorning; is it considered cruelty to animals in Scotland; is it forbidden in Scotland?—I think there have been two cases tried in Scotland, and I think the first case was considered to be cruelty and forbidden; then I think there was a case tried again, and the decision was overturned.

2693. Do you happen to know what the law in Ireland is, or whether it has been pronounced?—It has been tried there too, but I think at the last trial it was not held to be cruelty.

2694. Do you think there is much harm done by the horns in travelling?—I have no doubt that there is harm done, but I cannot say that I have seen animals ripped up or much injured by the horns. I think it is nothing in comparison with the ill-usage that they get in other ways by the sticks and rough passages, and one thing and another.

2695. Now you propose to have inspectors who will see that the regulations are carried out on the passage, do you not?—Yes; there are a number of regulations, but the unfortunate thing is that there is no one to enforce them. Regulations are of no use—I have found that, unless there is someone there to enforce them.

2696. (Major Tennant.) You suggest that vessels might be licensed to carry a certain number of cattle?—Yes.

2697. How would you deal with the question where the cargo is a mixed one, mixed I mean in the sense that part are fat, part are well grown stores, and part are calves?—I would take the number of head of each, and make a calculation of the space that they needed.

2698. Do you think that that would present any difficulties in practical application?—No doubt there would be some little difficulty, but I think it would be overcome.

2699. I want to suggest this case to you. We will assume that the cattle had been loaded on a dark winter's night, and that a mixed number of the animals are brought to the quay side to be embarked; who would decide which grade the animals belong to?—The officer who is deputed to carry out the regulations.

2700. Who would you suggest that should be on the Irish side?—I think it might be done by the veterinary inspector.

2701. You know that if you want to enforce a regulation you must be able to obtain such evidence that you may be enabled to prosecute an offender upon?—Yes.

2702. Do you think that that would present any practical difficulties?—I do not think they are insurmountable. I think that every day would make men more able to deal with the subject instead of there being the same difficulty every time. I think before very long the individual officer would become so used to it that he could gauge the whole thing at once.

2703. Have you ever known any case where the application of such a law has been successful?—No, I have not. But there is another way you can get at it, if you do not by licensing a certain number—you can license by space. For example, you have pens 6 feet by so-and-so, or so many feet by so-and-so; you put so many animals of a certain age in there, and so many more of younger ones will go, of course, in the same place. For example, if six bullocks occupy a given space, eight or nine smaller animals might be safely put into the same place.

2704. Now you recommend further that there should be a detention for rest. I presume you mean on the Irish side?—Yes.

2705. Now, there again, do you think that could be carried out practically without much friction; do you think that an inspector could arbitrarily decide that certain animals are to be detained, and by that means, perhaps, lose the market for the animals—do you think that that can be practically done?—I do.

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2706. And successfully done?—I do.
2707. And usefully done?—Yes.
2708. As to battening, you recommend cross battening do you not?—I do.

2709. Has it occurred to you that practical difficulties arise in cross battening where the space used for cattle on one voyage is to be used on the next voyage for goods?—Yes.

2710. Has it occurred to you that there would be a difficulty as regards taking the goods along the deck?—But I think that could be got over by having battens on movable planks laid on top of the battens.

2711. Now, as to the inspection of vessels no doubt you are aware that under the Contagious Diseases (Animals) Act of 1878 an inspector of a local authority has power of entry on board a vessel?—Yes.

2712. In order to see that the regulations are being carried out?—Yes.

2713. May I ask is that done in Glasgow?—It is not, except when we have disease.

2714. But it might be done might it not?—I am not so very sure about that.

2715. Where is the difficulty?—The difficulty is just this. That when we had trouble you know we had a reason for watching all movements and everything else, but I do not see very well how we could have power to interfere much with it.

2716. You will remember that by section 52 an inspector may at any time enter a vessel in which, or, in respect whereof he has reasonable grounds for supposing that "this Act, or an Order in Council, or a regulation of a local authority has not been or is not being complied with"?—There is no order of the local authority of Glasgow that has not been complied with.

2717. No; but there is an Order in Council, dated 1886, as you know, which lays down certain regulations as regards fittings?—Yes.

2718. Could not the inspector of the local authority visit vessels and see that those regulations are carried out?—I have visited the vessels, my assistants visit the vessels, and we see that there are battens, and that there are partitions and that they are washed certainly; but so far as dealing with live animals we have never done anything until they are landed on the harbour side.

2719. You have not done anything?—No, but the steamers are regularly washed, thoroughly washed.

2720. I am only speaking with regard to fittings for ventilation?—I have a note here of steamers examined this last month which I will hand in if you like.

2721. (Chairman.) I think it would be better for you to mention them, and not to hand them in so that we may all know what they are?—The first is the "Dromedary" from Belfast, and the note is: "No cattle. Deckage, &c. clean and in good order."

2722. Will you give the dates?—These are all in the month of March. Then the "Olive" from Londonderry: "No cattle. Deckage, &c. clean." The "Mastiff" from Londonderry: "171 cattle and 26 pigs. Afternoon visited. Deckage, &c. washed and cleaned." The "Hound" from Belfast: "No cattle. Deckage, &c. clean." The "Shamrock" from Londonderry: "120 cattle. Afternoon. Deckage, &c. thoroughly cleaned." The "Cedar" from Londonderry: "No cattle. Deckage, &c. clean." The "Alligator" from Belfast: "20 cattle and six horses. Afternoon. Deckage, &c. thoroughly cleaned." The "Lamphrey" from Londonderry: "No cattle. Deckage, &c. clean." The "Olive" from Londonderry: "No cattle. Deckage, &c. stored." The "Dromedary" from Belfast: "No cattle. Deckage, &c. clean." The "Alligator" from Belfast: "72 cattle. Afternoon. Deckage, &c. thoroughly washed and cleaned." The "Owl" from Londonderry: "No cattle. Deckage, &c. clean." The "Hare" from Belfast: "20 cattle. Afternoon. Deckage, &c. cleaned." The "Seal" from Belfast: "39 cattle and 10 horses. Afternoon. Deckage, &c. cleaned." The "Mastiff" from Londonderry: "168 cattle and 10 pigs. Afternoon. Cleaned." The "Alligator" from Belfast: "Six cattle. Afternoon. Cleaned." The "Cedar" from Londonderry: "19 cattle and 19 horses. Afternoon. Deckage, gangways, &c. washed and cleaned." The "Hare" from Belfast: "Six calves. Afternoon. Washed and cleaned." The "Shamrock" from Londonderry: "126 cattle. Afternoon. Deckage, gangways, &c. washed and cleaned."

2723. (Mr. Field.) Was there no Dublin steamer?—We get now and again such steamers. We do not go right through all of them.

2724. (Mr. Watson.) There was no Dublin steamer amongst those?—There would be Dublin steamers coming to Glasgow, but we do not go to every steamer. We just go now and then to see that the things are kept clean and that the gangways are clean.

2725. (Major Tennant.) You have had many opportunities of observing the condition in which Irish store cattle arrive at Glasgow, and of comparing it with the condition in which Canadian stores formerly arrived at Glasgow?—Yes.

2726. How did the one compare with the other in your opinion?—Very unfavourably, I think, the Irish with the Canadian. The Canadian cattle arrived in far better order.

2727. How do you account for that?—It must be that the passage is not so rough, and that the provisions for their accommodation on board are better than they are in the case of the Irish traffic. The cattle, you see, are all in small pens and tied athwartships, with a passage between, and they are regularly fed and attended to. Then they get accustomed to the journey; they have been on it some days.

2728. Now, in order to carry the Irish cattle in such a way that they should arrive in as good condition as the Canadian cattle arrive, do you think that would entail a higher freight?—I should think it would.

2729. What proportion should you say; what percentage of increase; could you form any estimate at all, even a rough one?—No; but I do not think you would require to have identically the same provision. I do not think so. I think that you would not require to have the cattle penned up in the same way and all the same provisions.

2730. I am not asking as to the means; but I want to ask, in order that they should arrive in equal condition, what you think would be the increase in cost?—Supposing I were to say 5s. a head, I do not think it could be anything like the half of it.

2731. In addition to what is paid now?—Yes, and it would be worth far more than 5s. a head.

2732. Do you think that the trade generally would be willing to pay that difference in order to get that advantage?—I believe they would.

2733. (Mr. Parker Smith.) Are these visits that you have just been describing under the Animals Order of 1886?—Yes.

2734. Have they all been made to the steamers after they have been emptied, after the beasts have been taken out?—Sometimes we are there when the animals are coming off, and sometimes in the afternoon. We do not go regularly. We go round to the dairies and do other work as well in the city, and to railway stations; and we just go to the vessels now and again.

2735. In your visits do you ever look after the ventilation?—No, we have nothing to do with that.

2736. One of the requisites in this order is "that every such place, if enclosed, shall be ventilated by means of separate inlet and outlet openings of such size and position as will secure a proper supply of air in all states of weather." Have you never concerned your head about ventilation at all?—I have never done anything of that, because I have no instructions from my local authority, and I have never had any instructions from the Board of Agriculture, and I am not a judge of ventilation. It seems to me a very difficult matter to ventilate a steamer.

2737. Clearly. But the local authority have neither charged you nor any other skilled person to look into this matter of ventilation?—No.

2738. Never at all?—No.

2739. It seems to me that they have power under this order?—There is no local authority that ever I have known that has touched the fringe of it even.

2740. Do you consider that ventilation is one of the serious matters that the beasts suffer under as they cross?—Yes, I have no doubt of it.

2741. You have seen them arriving, having the appearance of having suffered?—Yes.

2742. Have you been down yourself in the hold often?—I have.

2743. And in the 'tween decks?—Yes.

2744. Have you found the air bad there?—Yes.

2745. We have heard, for instance, from some of the witnesses, of the beasts being temporarily blinded with ammonia. Have you seen that?—Yes; you will see them daily coming off, weeping at the eyes. I have not seen them blind, but I could easily understand that they might be.

2746. Temporarily blind, you understand?—Yes.

2747. You have seen them suffering in that way pretty much as they came off?—Yes; I think every one is aware of that, all the dealers, and in fact every one is aware of it; and yet still there it goes on.

2748. But you believe that at the expense of an increased freight you could much more than increase the value of the beast?—I think so. I have said that all along.

2749. Then you spoke of this lairage question. I am afraid the Broomielaw is pretty much crowded altogether?—It is, but still we would not require much space. All we want in the Broomielaw is simply a shed set apart for the cattle to be unloaded there—that is all—not to remain. Let the steamers that touch there put off their cattle and then go to their berths.

2750. In this same Order, the Animals Order of 1886, suppose you are aware of the provision that, "At every place where animals are put on board of or landed from vessels provision shall be made to the satisfaction of the Privy Council for a supply of water for animals; and water shall be supplied there gratuitously on request of any person having charge of any animal"?—The local authority in Glasgow put up water troughs, I know, for I had charge of that myself, on the waterside, but the cattle dealers would not allow the cattle to use them, and I think, unless the cattle were only allowed to take a very small quantity, they had better not take any until they go a little further.

2751. The next provision is, "At every place where animals are landed from vessels provision shall be made to the satisfaction of the Privy Council for the speedy and convenient unshipment of animals, and for a supply of food for them, and food shall be supplied there on request of any person having charge of any animal at such price as the Privy Council from time to time approve"?—We, as the local authority, when that Order came out applied to the Privy Council for power to cause persons to put their cattle into premises to be provided and to charge. We applied for power to do this, and the Privy Council could not give us it. It would be no use our fitting up these buildings upon the harbour side, supposing we had plenty of room to put them up, unless the Board of Agriculture could compel the owners to put the cattle in there and pay for the feeding and watering.

2752. You say you would prefer the beasts to march a mile after they got off the ship?—About a mile; yes. I think it would be better in warm weather if they are perspiring and that, so that they may cool down, if it is cold weather they would be better for the walk too. This mile that they would be moving would be in the direction of where they would be ultimately going; it is not a mile out of their way, but a mile in the direction of going towards the railways. Store cattle are not kept in Glasgow, they are just passed through by way of a route, and the local authority of Glasgow are in no way benefited by the store cattle, which are simply taken through the street, and go straight off by the railways.

2753. Do you think it would be a serious matter, from the point of view of the steamers, to make them disembark their cattle at a different place from that where they berth themselves?—I do not think so; in fact, if you had the facilities I speak of I think you could take off 400 cattle surely within an hour.

2754. There are facilities at Shieldhall, are there not, for landing beasts?—Yes, but that is much too far down for the store trade, and it is on the wrong side of the river. Cattle do not go away from the south, they go from the north.

2755. Did you find that convenient when the Canadian cattle were landed there?—Yes, but we are not the local authorities having jurisdiction there; besides, if you have to put them on to the railways, it is so much more expensive getting them up to the city. All that we require is simply one shed from the Harbour Commissioners to unload all the cattle that are coming from Ireland, and I think they could all be

unloaded from any steamer within an hour. We do not want the steamer to remain there, but simply that the cattle should be taken off, and that then she should pass up to her berth.

2756. With this one shed you could put cuts into the wharf, and you could fit this pivot gangway that you have described?—Yes.

2757. And you would have all the boats of the different lines coming to this one shed and disembarking?—That is it, and then go on to their own berth; nothing more than an hour would be taken in getting them off.

2758. (*Mr. Field.*) Am I to understand that you are the principal officer of the Board of Agriculture in Scotland?—No, only in Glasgow.

2759. When you were going over to Ireland did you travel with the cattle on board the steamer that you went on?—Yes.

2760. Going and coming?—Yes.

2761. You had an opportunity of seeing how they were treated?—Yes.

2762. Did you examine the steamers in the course of that voyage?—Yes, I was inquisitive enough to look all round about them, although I had nothing to do on board the steamers.

2763. I take it that it is not part of your duty as an officer of the Board of Agriculture in Glasgow to inspect steamers during the voyage?—No.

2764. It was merely a labour of love on your part rather than anything else?—Going over there?

2765. Yes?—Entirely. I had no power to go on board officially during the passage.

2766. You are of opinion that a veterinary surgeon should be at every port to inspect the cattle when they are being embarked?—Yes.

2767. Do you think it would be a good thing if the veterinary surgeon was at the other side to see them disembarked?—I mean that too.

2768. As a matter of fact have the Glasgow authorities provided a veterinary surgeon to receive the cattle?—No. When we have had foot-and-mouth, or when pleuro-pneumonia has been prevalent, then I have been asked by the local authority to deal with this too, and have done it.

2769. It is only in the case of disease, where you are endeavouring to stamp out disease, or to prevent the reception of diseased animals into your port, that a veterinary surgeon is employed to receive and look over the cattle?—Quite so.

2770. That is all?—That is all.

2771. But under the ordinary normal conditions of the live-stock traffic no such provision exists?—No.

2772. As a result of the observations about which you have given evidence here, did you ever make any representations to the authority as to the necessity of resting the cattle?—Yes, not only so, but our local authority took the matter up very heartily, and were willing to put up erections if we could have had power to compel the parties to put the animals in there and pay for the feeding.

2773. Then I take it that in your opinion it is the absence of mandatory power which causes that lapse in this particular direction, because the authorities have no power to enforce that whoever is the consignee of the cattle should put them in there to rest; that is the reason you have not taken action?—Quite.

2774. Do you not think 12 hours' detention would entail, unless in extreme cases, a very severe consequence on the cattle owners. Could you not do with less?—We might do with six hours.

2775. Would three hours do. Sometimes it might mean the loss of a market; it might mean the keeping of a beast or a lot of cattle for a week, or sometimes even for a fortnight?—Three hours is a very short time.

2776. I do not want to press you on that time. You are strongly of opinion that the cattle ought not to be loaded on board of the ships more than two hours at least before the ships start?—I think so, they should not.

2777. You are of opinion that their being on board the ship for such a length of time generates the bad air owing to the absence of ventilation that is generally prevalent?—It must be so; and then if the animals are

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packed close, and the steamer is at rest, it cannot get away.

2778. You are of opinion, also, that the electric light for inspection purposes should be provided at every port where cattle are exported in any quantity?—Yes.

2779. Are you aware that we have such a light in Dublin?—I am.

2780. Now with regard to the space that you suggested ought to be given to cattle, and the grading. Is it your opinion as a practical man that a veterinary surgeon having charge of the embarkation of cattle could in ordinary times deal with a lot of cattle at once within such a time as would enable a vessel to be loaded?—I think so. I think that he would get used to his work and get about it as quickly as possible.

2781. You do not see any practical difficulty in that, as a practical man?—No, I do not.

2782. Are you aware as a matter of fact that such a system is, to a certain extent, in force in the north of Ireland?—No, I am not aware of that.

2783. Where an insurance rate is paid for cattle, and the cattle are all graded according to the rates of insurance?—I am not aware of that.

2784. If you were told that such is the case would you think it would be applicable in other ports?—Yes, I would.

2785. Just the same as it is practised as a matter of every day occurrence in the north of Ireland?—It would strengthen me in my opinion that it could be done.

2786. I understood you to say, and I would like a definite expression of opinion on this now, that in your opinion the ventilation was not complete in any of these cross-channel cattle steamers that you have ever visited. Is that so?—That is so. I have never been on board of one yet that I was thoroughly satisfied with, but then I have not been on board this "Olive" when she is sailing.

2787. We will except the "Olive," because you have not been on board of her when she is sailing, but what I may take it that you wish to convey to this Committee is, that it is your deliberate opinion that the ventilation is not complete or sufficient on any of the vessels that you have had the opportunity of visiting?—That is my opinion.

2788. You frequently saw cases of blindness resulting from ammonia?—I have seen watering at the eyes, weeping of the eyes, but not blindness.

2789. It is very near it. You gave some evidence about the cattle being tied up irregularly. I did not like to interrupt the Chairman, because it would not be proper that I should do so, but I want to know where did these cattle come from?—They came from Ireland, where they were tied heads to tails.

2790. Do you think that the pens ought to be made smaller?—I think that about six full sized animals is as many as should be in one pen.

2791. As far as your own practical experience goes do you think that the pens ought to be somewhat smaller than they are at present?—I think so, some of them at all events.

2792. You are of opinion also that the beasts ought to be tied, what you call, athwart ship?—I think so.

2793. That is the practice with regard to American cattle, is it not?—Yes.

2794. You would recommend something of the same system to be adopted in the Irish vessels, modified to a certain extent in order to meet the lesser voyage, the lesser time?—Yes.

2795. The same kind of system that is prevalent now in the Oceanic steamers, but you think it might be modified to meet the requirements of the cross-channel traffic?—I do.

2796. That is your deliberate opinion?—Yes.

2797. Are you of opinion that a hospital pen ought to be provided on all these cross-channel steamers. You know what I mean by "hospital pen." I mean a pen to receive injured animals?—Yes, it would be a very good plan.

2798. Have you ever come across any of these steamers that had such a hospital pen?—No, I have not; they may have, but I have never come across it.

2799. You have never come across it?—No.

2800. Then it is your opinion, so far as your experience goes, that such hospital pens are not provided on these steamers?—I am not aware that they are.

2801. So far as your experience goes I only ask you that?—Yes.

2802. And you think, also, that licensed drovers ought to be appointed?—I do, indeed.

2803. And those licensed drovers should be subject on board ship—because that is really what we are practically dealing with here—to the captain?—I think so, because he is in charge of the ship, and I do not know of any other authority that you could put them under.

2804. From your experience, could you say whether the per-centage of injured cattle is greater amongst the cross-channel transit from Ireland, or amongst the American cattle?—It is greater in the Irish.

2805. Could you give us any figure?—I cannot give you the Irish, but I can give you the Canadian.

2806. However, it is your deliberate opinion that the per-centage of injured live stock is much greater on the shorter distance than it is on the longer distance?—That is my opinion.

2807. If you were given an opportunity, I suppose you would be in a position to prove that by figures?—I feel sure I could.

2808. If I might make a suggestion, I think it would be a good thing if you would endeavour, when you go back, to get us some statistics as to that, because it would be very useful to this inquiry?—Yes.

2809. Now, you do not think that the Glasgow goad is good?—No, it is a stick.

2810. I know. Do you think that you ought to adopt the goad that is used in London?—Yes.

2811. Have you ever made any representations to the Royal Society for the Prevention of Cruelty to Animals in Glasgow, or to the police authorities to send some one to watch the debarkation of cattle?—No.

2812. It did not come within the scope of your duties?—No.

2813. I know we did it in Dublin. You say the local authorities and the harbour authorities do not make provision for the watering or the feeding of cattle, because they have no mandatory power?—There is provision for watering on the harbour side.

2814. But that is all?—Yes.

2815. You are of opinion that on store cattle the loss is even greater than it is in fat cattle?—I am.

2816. You say that in your opinion it takes the cattle three weeks or a month to recover from the injuries they sustain in the rail journey, and in the short voyage between Ireland and Scotland?—That is the experience of those who have to deal with it, and I have seen it myself.

2817. Have you had direct evidence from farmers and stock owners to that effect?—Yes.

2818. Do you know, as a matter of fact, that Scotch farmers prefer to buy Canadian stores by reason of the fact that they thrive sooner?—I believe that is the fact.

2819. Do you think, from your knowledge of what the Scotch farmer feels on the subject, that he would be inclined to give more for Canadian stores, all things being equal in other respects, than he would for an Irishman?—On that account, yes.

2820. What would you put the difference of value at?—I could not put it.

2821. Would it be 10s. or 20s.?—I should think it would be 1l.

2822. You are of opinion then that there is 1l. lost on nearly every store beast that is sent to Scotland from Ireland by reason of the extraordinary way in which they are carried?—Yes, that is the general feeling that prevails; parties purchasing these animals believe it.

2823. I think that is a very alarming statement, and I say it as an Irish member of this Committee. Now we have certain provisions in the Order of 1886 to which I desire briefly to draw your attention, because I do not want to take up too much of the time of the Committee—it says, regarding the transit by water, in section 116: "Every place used for animals on board a vessel shall be divided into pens by substantial divisions." Do you know whether that is carried out, as a matter of fact?—Yes, the bulk of them are so.

2824. "Each pen shall not exceed 9 feet in breadth or 15 feet in length." Do you know whether that is carried out?—I do not think that is according to the letter of the law.

2825. "The floor of each pen shall, in order to prevent slipping, be strewn with a proper quantity of litter or sand, or other proper substance, or be fitted with battens or other proper footholds"—is that carried out?—There are battens, I think.

2826. Is there no such thing as litter or sand?—Sometimes there is litter—not often.

2827. "Every such place, if enclosed, shall be ventilated by means of separate inlet and outlet openings of such size and position as will secure a proper supply of air to the place in all states of weather." Do you think that is carried out?—They have made provisions, you know, but whether they will give that supply of air I cannot say.

2828. Then I may take it as your opinion that although we have this section 4 in paragraph 116 of this Order practically although this regulation exists here it is not carried out in a practical way?—It is carried out in a way, but even when it is carried out there is not a sufficiency of air. There is something more, apparently, to be learnt about the ventilation of a ship.

2829. May I take it as your opinion that this regulation does not cover the necessity?—It does not.

2830. Here is a very important paragraph about overcrowding: "A vessel bringing animals to any port or place in England, or Wales, or Scotland, from any port or place in the United Kingdom, shall not be overcrowded so as to cause unnecessary suffering to the animals on board." How do you deal with that?—I do not think there is overcrowding to any extent, if, and unless—

2831. If you please I do not want that kind of answer. Here is a special regulation: "A vessel bringing animals to any port or place in England, or Wales, or Scotland, from any port or place in the United Kingdom, shall not be overcrowded so as to cause unnecessary suffering to the animals on board." I want to know what steps do you take to see that that paragraph is carried out?—We do not take steps to see that that is carried out.

2832. Then so far as that paragraph about overcrowding is concerned it is absolutely a dead letter in the law?—It is.

2833. I am to take it as your deliberate opinion that that is so?—That is my opinion.

2834. When I made that statement before, or at least, gave that opinion myself, it was looked upon as being exaggerated; now, I have it from you as the chief officer of the Board of Agriculture in Glasgow, that I was correct?—I have nothing to do as an officer of the Board of Agriculture with that.

2835. I will come to that presently. Now, with regard to detention, section 120 is that: "Animals landed from a vessel shall, on a certificate of an inspector of the Privy Council certifying to the effect that the provisions of this chapter, or some or one of them, have not, or has not been observed in the vessel, be detained at the place of landing or in lairs adjacent thereto until the Privy Council otherwise direct." I suppose you have nothing to do with that either?—No.

2836. Although that paragraph exists in these regulations, yet, as a matter of fact, none of the authorities concerned seem to take cognizance of it when the animals land?—No.

2837. The regulations appear to be very good only they are not observed. Now, as to food, section 122 says: "At every place where animals are landed from vessels, provision shall be made to the satisfaction of the Privy Council for the speedy and convenient unshipment of animals, and for a supply of food for them; and food shall be supplied there on request of any person having charge of any animal at such price as the Privy Council from time to time approve." Is that carried out in Glasgow?—There is no provision.

2838. No provision?—Except by the parties themselves, either at the railway stations or at the lairs.

2839. Then, with regard to the water; there is a similar paragraph, but there is no need to detain the

Committee by reading it?—There is water on the harbour side.

2840. Yes, but there is no provision made with regard to seeing whether the cattle get it or no?—They will not allow them to get it.

2841. And there is nobody there to make them even get a small quantity?—No.

2842. So that those regulations are more honoured in the breach than in the observance; some of them, at least?—I have no doubt as to that.

2843. It is a strange state of the law. Have you ever had a case of proceedings against shipowners for a breach of those regulations?—Never.

2844. Did it ever come within your knowledge, then, of any officer concerned with the local authorities, the Board of Agriculture, or anyone else, who is charged with authority or function in this matter ever took action against the shipowners for a breach of these regulations?—There might be a case, but I am not aware of it.

2845. You are not aware of it?—I am not personally aware of it.

2846. I think you said, in fact I am sure you said, that these regulations are of no use until they are enforced?—They must be enforced.

2847. They must?—The regulations are fairly good if they were all carried out.

2848. Then I may take it that in your opinion they are not enforced; in fact, you have admitted that now?—No, they are not enforced.

2849. So that practically, although we have certain regulations which have been passed on and carry the force of an Act of Parliament, yet really the shipowners do what they like?—Well, I do not know that they do as they like.

2850. There is no one to compel them to do anything else—I will put it in that way?—I cannot answer that; there may be so far as I am aware.

2851. Within your knowledge, as a gentleman having charge of the Glasgow live stock business, can you satisfy this Committee that if the shipowners commit a lapse of duty there is anyone to bring them to book for it?—I am not aware that there is.

2852. I mean on the voyage between Scotland and Ireland?—I understand that some of the officers of the Board of Agriculture have been travelling from Scotland to Ireland, and from Ireland to Scotland.

2853. But you are not aware?—I am not aware of any prosecutions or of what they have done.

2854. You are not aware of any prosecution, and you are not aware of a shipowner ever having been summoned in connexion with any lapse of the regulations?—No.

2855. That is what I want to know about. Then I may take it that in your opinion there is no jurisdiction, to a certain extent, and that on the mid-channel there is a kind of vacuum, a lapse of authority. I will put it plainly to you: You are charged, on behalf of the Agriculture Department, with looking after the cattle when they arrive at Glasgow, and the Privy Council of Dublin are charged with seeing that the cattle are shipped properly?—Excuse me, I am not appointed to see to the cattle when they land.

2856. Who is then—somebody is?—My duty is to inspect the markets in Glasgow, the dairies, the railway stations, and the harbour, but I have no power on board of a ship.

2857. It is worse even than I thought it was. Is there anyone who has power?—I am not aware that there has been anyone deputed for that special purpose.

2858. I understand that no one on the Scotch side has any power to inspect or look after the live stock; is that it?—There is no one deputed to do it.

2859. Who ought to do it?—I do not know that anyone specially has been deputed to do it. The regulations are there. The local authorities, when we had trouble, did all they could to prevent the spread of the trouble.

2860. Am I to understand that it is only in cases when disease is prevalent that the cattle are looked after, and that during the normal condition of the transit of cattle there is really no one charged with

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looking after them?—If we find the steamers cleaned and the gangways kept clean that is about—

2861. I am coming to that, but will you kindly answer my question. Do I understand you to state that under the normal conditions of the live stock traffic there is no one charged with the responsibility of regarding the condition of the stock as they arrive?—If they are healthy?

2862. If they are healthy?—Yes.

2863. That is exactly what I say; but when there is disease amongst the live stock then there is inspection?—We prescribe the routes and everything; where they are to go to, and all.

2864. If I understood you correctly, you have a certain amount of authority as regards the ships being kept clean, and how they are fitted up, but you have no authority or jurisdiction when the cattle are in those ships, or at least it is not exercised?—I think they require to be landed before we have any authority. We never interfere with the animals on board the steamer.

2865. If I understood you correctly, it is that while the live stock are on the steamers there appears to be no authority, or if there is authority it has never been exercised?—That is so.

2866. (Mr. Booth.) On that point of the watering, after the beasts land from the boats, you, as a veterinary surgeon, of course have an opinion on that point, I understand the reason that the owners or drovers are afraid of letting the beasts drink is that the animals are in a somewhat fevered condition?—I do not think that they are in a fevered condition.

2867. Well; in a heated condition?—Yes.

2868. If they had had water at intervals within the previous 24 hours, or if they had been on a ship where the ventilation was sufficient, they would not be in that condition, probably?—If they had sufficient ventilation and sufficient water to drink, no doubt they would not appear in this heated condition.

2869. They would not land in the condition that the Chairman referred to when he said that they rush at the first pool of dirty water that they can get to?—Quite so.

2870. That is what the drovers are afraid of their doing lest it should produce diarrhoea?—Yes.

2871. If the animals were carried in well ventilated ships, and had food and water at natural intervals, that condition would practically not exist?—No doubt, it would tend to have them leave the ship in a better condition.

2872. The heated condition in which you see them you would attribute, of course, to the want of sufficient ventilation?—Yes, to the want of sufficient ventilation.

2873. On the point of food and water on board the boats, you said that it was not required on so short a passage; have you ever thought of the passage, for example, from Cork and Waterford to Glasgow?—I understand that about 18 hours is the longest passage that you have.

2874. Of course you have your information as to the length of the passage from Cork?—I do not think it is correct. However, suppose you have a passage of 24 hours or more, would you still hold the opinion that it is not necessary?—No, if it is 24 hours, I think the cattle should have some water.

2875. Then with regard to the possibility of being detained either by fog or by the break down of machinery, do you think the boats ought to have some provision prepared for such contingency?—Yes.

2876. You spoke of the tying, and you used the word "thwartships." I understood you to mean the position when the cattle is tied with its head towards the centre of the ship instead of towards the bulwarks?—Yes.

2877. The word 'thwartships' is generally used in contradistinction, I think, to the cattle standing lengthwise of the ship, or fore and aft, and there was a little confusion, at least when you first used that word, to know exactly what you meant?—I meant instead of standing with their heads to the ship's side, their heads would be turned to the centre.

2878. That is to say, the cattle should be tied to a head-board instead of to a ring inside the ship?—Yes.

2879. If you had gangways along the ship alley-ways, for the men to get at the cattle, you would not see the

same objection that you do to tying in that direction rather than to the bulwarks?—That is so.

2880. Are you in favour of having alley-ways or gangways?—I am very much in favour of that, it gives breathing space.

2881. You spoke of the cross-battens and of the difficulty arising on account of the cleaning of the decks?—Yes, that is a difficulty.

2882. You are no doubt aware that they are fixed on the Atlantic boats either not reaching the whole way, or with a sort of arched apertures underneath to enable the water to run through?—You know there is no cleaning of these steamers while the cattle are on; they are cleaned after the cattle come out.

2883. Exactly, and I am speaking of the washing down after they come out. Do you think that having cross battens would prevent the steamer, in a practical way, from being properly cleansed?—It would be more difficult to do it, but I think it could be so arranged that it could be done.

2884. Then you act both as inspector to the local authority at Glasgow and for the Board of Agriculture?—Yes.

2885. So that whatever power there is in either of those authorities you are in possession of it?—I am in possession of it to the extent that I am asked to do it.

2886. Then you said that you did not consider your duties in either of these capacities went to the ventilation of the ship?—No.

2887. Are your duties very similar to those of a travelling inspector under the Board of Agriculture, or are they different?—Really, so far as the Board of Agriculture is concerned, and in connexion with the Canadian and American trade, what I have to do is the examination of animals for soundness or disease after they are landed. I have nothing to do with them on board the steamer until they are tied up in the wharf.

2888. Neither has a travelling inspector, has he?—I do not know.

2889. You are not acquainted with his duties?—No, I am not acquainted with his duties.

2890. At Glasgow you were saying that you have more experience of store than of fat cattle; that is partly because the quantity of fat cattle arriving in Glasgow is small compared with the quantity of stores, is it not?—Yes, there is a much larger quantity of stores coming to Glasgow than of fat cattle.

2891. The quantity of fat cattle coming to Glasgow is only about one-third—I am speaking of Irish cattle, of course—of the quantity of stores?—Not quite so much even as that, I think.

2892. There is one other point with regard to the slaughtering on board and the captain's powers; you said you were not aware of the Atlantic Order. I should like to ask you whether you are aware that the Foreign Animals' Order Regulation K. runs as follows:—"In the case of cattle suffering from broken limbs or other serious injuries during the voyage, the master of the vessel shall cause such cattle to be forthwith slaughtered." You are not aware of that Order?—No doubt I will be aware of it because I have all these Orders, but I cannot keep them all in my mind.

2893. You did not have it in your mind at the time, and you do not know of any reason why the same kind of Order should not exist in the cross-channel trade?—I do not know of any reason.

2894. (Mr. Cullen.) Would you recommend that an inspector should visit each hold of the ship after the vessel is loaded, but before starting, in order to see that the ventilation was perfect?—I think so.

2895. And that he should be a qualified inspector?—A qualified inspector.

2896. Would you recommend a qualified veterinary surgeon to examine the cattle previous to embarkation to see that they are healthy and free from fatigue?—Yes, I would.

2897. Do you recommend the use of the electric light?—Yes.

2898. Now you spoke about grading the cattle; there is a great number of cattle that are landed in Glasgow called stores; what are those?—They all go by the name of stores if they are not fat cattle.

2899. Are they yearlings?—They are yearlings and six quarters, and you have stores that are more than two years of age—that are three years of age.

2900. Exactly, but how would you define them. We want a definition. I saw that a man bought a store at 24 $\frac{1}{2}$, a bullock which weighed 13 cwt. live weight; would you run that bullock in as a store?—All animals that are going to be fed are what I call stores.

2901. You say you would have six big bullocks in one pen?—Yes.

2902. What weight would you limit them to, would it be 12 cwt., 10 cwt., or 9 cwt?—I do not think it is necessary to say anything as regards the weight. I should say full sized bullocks.

2903. What height would you have them—what is the average height at the shoulder of a full sized bullock?—I really could not tell you exactly.

2904. From what I know of the North of Ireland, cattle from Londonderry coming from the mountains, they are much smaller, and they are much hardier, and I think you would agree that on account of that they come safer from Londonderry to Glasgow than any other class; is that your opinion?—I could not say how far that is the case or not.

2905. You have examined these steamers I understand with a practical view in your mind; what height has suggested itself to you as sufficient for the holds in the case of average cattle. I mean the height of the lowest part of the hold for the cattle to pass under?—I did not take that into consideration.

2906. That is important?—I would not like to give an opinion upon the construction of the vessel and the ventilation, because really I am not a qualified person to do it, but I think that a pen should be of a sufficient size to hold six average cattle.

2907. But I am talking of the height of the hold, the height between the decks?—I do not know what it should be.

2908. Knowing the height of the cattle, one would want to know whether the cross beams of the deck would damage the choice part of the meat, that is, the backs of the cattle?—I could not speak as to that.

2909. What height are the average cattle; what height would be sufficient to clear them; just as you say you would have six cattle in the pen what height would you say the hold should be for ordinary cattle so that they would not be injured?—Any of them that I have been in I can walk underneath.

2910. Then 6 feet you consider, I suppose, would be more than ample for cattle. Then as to the gradient, there have been great complaints made of the gradients, and you have suggested a pivot gangway?—Yes.

2911. I understand that the vessels come alongside the river wall at Glasgow?—Yes.

2912. And they land the cattle at all times of the tide, but at different gradients according to the state of the tide?—Quite so.

2913. Consequently, as one of the witnesses from Glasgow stated, it is sometimes like a ladder for the cattle to go up?—Yes.

2914. Would this pivot gangway improve that, because I do not understand exactly how any gangway would reduce that gradient?—I have not seen it myself. Mr. Nelson, who will be here, will give you a description of it, he has seen it. I understand it can be lowered by the crane, and that it can be brought down and then moved up to any level you like.

2915. Is there anything special in this "Olive" from Londonderry different from other cattle boats?—I was informed that it was about the best ventilated steamer going, and that there had been a considerable amount of money spent on the ventilation.

2916. Then you did not see her?—I did; I was on board of her.

2917. Are there any special fittings that you would suggest?—She was divided into pens with battens in the usual way, and there was a special provision for ventilation. As I said before, I am not sufficient of an engineer to understand these ventilation questions. The ventilation is by means of induced draught with blowing nozzles, in all the ventilators, which are 11 in number. The blowing engines are a patent of Anderson and McKinlay of Glasgow. I am informed, but I do not know it as a fact, that she is about one of the best

ventilated ships that there is, and that they spent a considerable sum of money in getting her ventilated.

2918. What do you think would be the height of ordinary cattle, such as you would have in that pen with six cattle in it?—I did not look into it from that point of view; if I had, then, of course, I would tell you at once, but I would not like to give an opinion unless I had.

2919. (Mr. Watson.) You spoke of having paid a visit to the Irish ports, I think?—Yes.

2920. When was that?—I have paid several visits. I paid a visit during the Rinderpest times, 1865; and then I paid several visits when pleuro-pneumonia was very prevalent; then when we had foot-and-mouth I spent about three weeks travelling to the different ports.

2921. Is that long ago or not?—It is years ago. I was not, understand, employed by the Board of Agriculture to do it. The various local authorities of Scotland met and resolved that they would admit cattle from Ireland under certain conditions, and they asked me to go over.

2922. But it is years ago since you visited the ports? Yes.

2923. Did you visit many ports?—I did. I visited Belfast, Londonderry, Sligo, Cork, Limerick, Waterford, in fact, I think I visited almost all the ports.

2924. (Mr. Field.) Dublin, of course?—Yes, I spent days in Dublin.

2925. (Mr. Watson.) You mentioned that you thought there should be a veterinary surgeon inspecting the cattle at each port of embarkation. Are you not aware that there is?—I am.

2926. That every beast is inspected?—Yes.

2927. You did not speak of that as a want?—I knew that.

2928. You only said that it was a necessity?—Which should be continued.

2929. But it is a necessity which is met by existing arrangements?—Yes.

2930. I did not quite understand that. As regards having cattle detained a certain time before shipment, there is a point on which I would like to ask your opinion. Supposing a certain ship is loaded for cattle, and most of her cattle have come in in good time to be received before they are put on board; if a few cattle come in late would you refuse their shipment?—If the cattle that came in late appeared exhausted and tired I should refuse them.

2931. But you would not make a hard and fast rule?—No.

2932. That tired or not they must remain a certain number of hours?—That is just the part that must be left to the officer to decide whether he thinks these cattle should go or not.

2933. I did not quite understand that?—You do not propose then to have a fixed number of hours that a beast must be at the lairage before shipment?—No, not at all, the very reverse. If the animal comes on the harbour side at the time of the loading of the vessel, if it is fresh I would let it go on at once.

2934. That was the difficulty that suggested itself to my mind, and I was anxious to know your view on it; you would let it go on?—Yes.

2935. As regards this pivot gangway I understand that you do not know the details of it yourself?—I do not.

2936. Mr. Cullen asked you the very question I was going to ask you, as to how it altered the angle if one end of it was fast and the other end on the ship's deck; must not its angle depend upon the height from the quay to the ship's deck just as with any other gangway?—You will get all that, I believe, from Mr. Nelson; I have not seen it myself.

2937. Do you know what ports in Ireland are fitted with the electric light?—No, I do not know.

2938. But you know that some of them are?—Yes.

2939. The next important question, I think, that you dealt with was the number of cattle allowed to be on board ship, and that you said was to be fixed?—Yes, I think so.

2940. You were asked how that was to be dealt with considering the different sizes of cattle. Now the

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question I want to ask you is this: If all the cattle are to be shipped within two hours of the vessel starting, do you think that this decision as to the exact number of stock, taking into account the different sizes that are to be allowed on board that ship, could be come to in that time?—I think it might. You will not have more than 400 cattle.

2941. What is your object?—Not to overcrowd.

2942. I was just going to ask you that question; your whole object is to prevent overcrowding?—Exactly.

2943. Is there overcrowding?—It is to prevent it, you know.

2944. But is there overcrowding at present?—Not that I am aware of.

2945. You are not aware of any overcrowding?—No.

2946. Your whole object in fixing the number is to prevent overcrowding?—Exactly. If you give six large bullocks in one pen, then so many more smaller ones will go in; but you cannot put in any more than that number.

2947. You say that store cattle suffer much more, or, rather, to a greater extent than fat cattle?—Yes.

2948. What do you make that observation upon; is it upon your own personal knowledge?—Upon my own personal knowledge, because the animals do not start to feed, to put on condition, for a length of time. The fat cattle, of course, are killed within a short time after they are landed, and whatever damage is done on the passage is then stopped; but then there are the after consequences in the case of the store cattle.

2949. And you consider the money loss in the case of store cattle the greater?—I do, indeed.

2950. You also gave an opinion that the captain ought to be the final officer in whom responsibility rested, but you suggested that there should be another officer on board to see that he did his duty?—I think there should be an officer on board.

2951. Do you mean that in each ship an officer of the Board of Agriculture should travel?—Not at all.

2952. What do you mean?—What I meant was this; that there would be a small number, two or three, who will go a passage with a Dublin steamer this week and go with another steamer in a different direction another week, who would move up and down like detectives to see that the regulations are being carried out.

2953. And as an inspector—not as in any way superior to the captain in his authority on board the ship?—I look at it in this light: the captain is attached to the vessel, and there is a certain inclination, of course, on his mind to conserve all interests connected with the steamer. The officer of the Board of Agriculture has nothing to do but simply to see that the regulations are carried out. I do not mean to insinuate for one moment that the captain would not do his duty; but I think it would be well to see that it is being done.

2954. You mean a travelling inspector?—Yes.

2955. Who should go from time to time in the vessels?—Yes.

2956. I quite understand now. Have you ever seen these wooden goads—these very objectionable goads as they evidently are—used elsewhere than in Glasgow?—No, because I am not in the habit of going to other ports. I have not been going to other ports of late.

2957. They seem very cruel and very objectionable. You gave a return of the number of ships that were visited during the month of March, I think?—Yes.

2958. Can you say how many ships were visited and how many heads of cattle in all were in those ships during the month?—I gave the number of cattle.

2959. You gave the numbers for each ship, but could you give us the gross figure of the number of ships inspected, and the number of cattle carried. It is not easy to carry in one's mind the detailed figures?—That is during the month of March.

2960. Yes, but you gave it for each ship separately. I want to know whether you could give us the whole?—No.

2961. You have not got the gross import as contained in all those ships?—No. The point that we have been looking after was particularly to see that the vessels are cleaned after the cattle come off, and that the gang-

ways on the harbour side, which are, of course, under our own jurisdiction, are kept clean.

2962. Another point suggested itself to my mind, to ask you in reference to landing the cattle in Glasgow at one place only. Some of those ships that you are reporting as having inspected only contained 16 or 20 cattle. Would you stop a ship at a place to discharge a small number like that before bringing her up to her own berth?—I would. I would stop them all whatever the number on board was.

2963. At the railway stations is tepid water supplied to the cattle?—No.

2964. That is only your view of what should be done?—Yes. I know that an animal will not drink too much tepid water.

2965. Did I understand you correctly to say that the regulations for the fittings of the ships, as provided in the Order in Council, were not carried out?—The bulk of the steamers have all got battens and stanchions for fitting up.

2966. What is not carried out?—In answer to Mr. Field I understood that you said the regulations were practically a dead letter. I think that is the expression you used. What do you mean, is a dead letter?—As to the ventilation, it seems to me so far as I can make out that no one really knows very well how to ventilate a steamer.

2967. Are you aware that the Board of Trade issues certificates to state that these regulations, including ventilation, are carried out?—In calm weather, when there is not a breath of air blowing, it is a very difficult matter to get fresh air down into these places.

2968. (Mr. Field.) You cannot do it without some mechanical appliance, that is it, is it not?—Exactly.

2969. (Mr. Watson.) You also said in answer to Mr. Field that you had never heard of an action for a breach of the regulations, meaning, I presume, these regulations for the fitting of ships?—Yes.

2970. Did you ever hear of a breach of the regulations?—A breach of the regulations? For example, there is always to be a sufficiency of pure air—

2971. Did you ever hear of a breach of the regulations, because it appears strange that the authorities should never proceed against shipowners if there are breaches—the authorities must be asleep?—But really, how far have the local authorities, for example, of Glasgow, an interest in this matter? The cattle are not within their jurisdiction until they come upon the streets of Glasgow, and if they were coming upon the streets of Glasgow and these regulations had been within their jurisdiction as the local authority of Glasgow we would have had them all carried out. We carry out all regulations that we are deputed as a local authority to carry out—the inspection of railway stations, the inspection of dairies, and all these things; we do them to the letter because we have the power to do it, and we have had prosecutions, but we do not now require to prosecute because the people are quite willing to do what we are wanting them to do, but we have no jurisdiction—

2972. Can you answer my question as to whether you know of a breach of the regulations having taken place?—What I say in regard to the ventilation, for example, is that the steamers are all required to be ventilated in such a way as that at all times there is to be a current of pure air, or words to that effect. Well, I do not find that that is the case, but what can you do in a case of that kind? It seems to me that it is a great difficulty to ventilate a steamer.

2973. There is a great difference of opinion on that?—I have heard that on this steamer (which is well ventilated, and on which so much has been paid for its ventilation) the ventilation is not sufficient. But there must be a very great difference in a calm when there is no air blowing at all, compared with what it is in a storm, but so far as the steamers being kept clean and the battens and the floors of the pens, I think that is carried thoroughly out.

2974. Do you think that is carried out very effectively?—Yes.

2975. (Mr. Booth.) You were saying just now, in answer to Mr. Watson, that no case of overcrowding came under your notice in your official capacity. I want to ask you whether you would not consider the absence of gangways between the pens as being in itself overcrowding in a ship?—The absence of gangways.

2976. The absence of alley-ways on the different decks; would you not consider that in itself overcrowding?—I should certainly as a new regulation say that there should be alleys or gangways in front of the heads of the cattle.

2977. Throughout the ship?—Yes, undoubtedly, and we have some of these provided in the "Olive." That ship has gangways in front of the cattle in a part of it.

2978. (Mr. Field.) May I take it as your opinion that the general condition of the cattle and the depreciation in their value in consequence of the way they are carried from Ireland to Scotland does constitute in your opinion a breach of the regulations which were formed in order that the cattle might be safely carried?—They are not safely carried, and therefore it would be a breach of the regulations.

2979. Is it your opinion that the reason why no action has been taken against the shipowners is because you have no power to enforce these regulations, because that mid-channel passage is out of your jurisdiction?—That is what I mean.

The witness withdrew.

MR. THOMAS CORMACK NELSON called and examined.

2986. (Chairman.) You are, I believe, a cattle salesman in Glasgow?—Yes.

2987. For the last 15 years you have been largely interested in the cattle trade?—I have.

2988. Would you please inform the Committee as to the number of Irish cattle sold by you in 1893?—I sold, I think, 38,444 Irish cattle in 1893.

2989. Of those there were 10,000 fat?—About 10,000 fat cattle, the balance of 28,000 odd would be for store purposes.

2990. Besides those you have a large business in Canadian cattle?—In foreign cattle, principally States cattle and Canadians.

2991. You have in that way an opportunity of contrasting the conditions in which the two sets of animals arrive?—Yes, I have.

2992. So far as the Canadian and States cattle are concerned your experience is that they arrive in good condition?—Yes, in first-class condition as a rule.

2993. Do you attribute that to the care taken on board the ship?—Yes, and to the proper conditions under which they are loaded and cared for during the voyage.

2994. The result is that the butchers can buy them?—With the utmost confidence that they will get beef which is unblemished, and which is salable and fit for the purposes for which they buy it.

2995. It is not the same thing in connexion with the Irish, is it?—I find the very contrary with regard to the Irish. Butchers generally are getting, especially in Glasgow, where I think we have more reason to complain than they have in any other part of the United Kingdom, to care less about buying Irish cattle at all. They are getting more facilities for providing themselves with States and Canadian cattle, and as they are getting more of these facilities they are avoiding more and more the Irish cattle.

2996. You made a remark that in Glasgow more than in any other port in the United Kingdom they had reason to complain?—Yes, I believe we have got a worse cross-channel cattle service from Ireland to Glasgow than there is to any other port in the United Kingdom receiving cattle.

2997. (Mr. Field.) Worse?—Yes, decidedly worse as to the conditions under which cattle are loaded, as to the steamers which carry the cattle, and as to the conditions under which they are discharged.

2998. (Chairman.) In what particulars is it worse? Take it as to loading first?—Comparing the system of carrying cattle from Dublin to Glasgow with the system from Dublin to Liverpool it will be admitted that Liverpool has a great advantage in the quality of steamers that are provided. The cattle are carried from Dublin to Liverpool in large and pretty powerful paddle steamers, which are built and designed very much with the idea of carrying cattle. To carry cattle to Glasgow we have to put our cattle on board small

2980. (Chairman.) There is one point on which I think you would probably be able to give your opinion, which would be very valuable, and I do not think any question has been asked you upon it, that is regarding the amount of suffering which you say is inflicted upon the animals in these cross-channel passages, as shown by the injuries which you will have seen in their bodies when they come to be slaughtered and examined. Have you any experience of that?—Yes.

2981. You have seen bad injuries such as welts?—Yes, and then in storms they get down and get trampled.

2982. You have seen the carcasses?—Yes.

2983. Do you think that a large amount of suffering must have been sustained by the animals?—No doubt of it.

2984. (Mr. Field.) Which could be prevented?—Largely prevented.

2985. (Chairman.) At all events the injuries that you have noticed, to your mind, denote a great amount of suffering?—Undoubtedly.

screw steamers—well, medium-size screw steamers say, as a general rule; in fact we have only one paddle steamer carrying cattle from Dublin to Glasgow.

2999. What ship is that?—That steamer is called the "Duke of Argyll."

3000. I gather there were several points in which there was inferiority. What are the other points?—Another point is as to the conditions under which they are carried. It is an invariable rule in the cattle carrying trade from Ireland to England that fat cattle are tied. There is provision made for the tying of the cattle on board, and there is provision made for bullock men, or those in charge of the cattle getting an opportunity to look after the cattle. We have no provision for tying the cattle in the Glasgow trade, it is a very exceptional case where any one animal is tied on board the boat, and there is absolutely no provision in the shape of alley-ways to allow bullock men to look after their cattle.

3001. Did I understand you to say, just now, that it is a very rare case where any single animal is tied in the Glasgow trade?—Yes.

3002. (Mr. Field.) Unless bulls, I think?—Unless strong bulls, that is the only thing. Bullocks of any description are almost never tied.

3003. (Chairman.) Can you say whether as a result of that a larger per-centage of the animals arrive in Glasgow damaged than in the other ports?—Yes, I believe that the per-centage of damage and the quality of damage is greater in Glasgow than in any other port.

3004. You have no statistics as to the number of injured animals respectively, I presume?—I could form a very fair idea from the number of cattle that I receive. I think that I would be safe in saying that 60 to 70 per cent of the cattle that I receive are more or less damaged, are damaged more than they should naturally be damaged by the voyage that they have to go.

3005. Is that in consequence of bruises received on board or through bruises from the stick, or from what?—Through bruises received on board as a rule, through the sticks, through being tramped, and through general exhaustion, caused by being confined on a slippery foothold for a long time, and compelled to inhale, I might say, very heated bad air with a lot of ammonia, and that sort of thing.

3006. The representatives of the Liverpool Butchers' Association gave us an estimate of the amount of deterioration considered as being suffered by the Irish cattle in the Liverpool trade at 10s. a head, and the representatives of the Glasgow Fleshers' Association put it very much higher, I think at 20s.—?—Yes, justifiably higher.

3007. I suppose you think that what you have been saying just now accounts for the difference?—Yes.

3008. You think the Glasgow Fleshers are right?—Yes, I think they are very wise in making a larger provision than 10s. a head.

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3009. As a matter of fact, I suppose in buying Irish cattle they do make a provision?—They do make a very liberal provision.

3010. You say that the Irish trade in fat cattle has fallen off?—Even in my time during the last 10 or 12 years, by more than 50 per cent.

3011. Do you think that that is due to the competition of the trans-Atlantic cattle trade, or to the unsatisfactory state of the Irish cattle?—I attribute it very largely to the unsatisfactory state of the Irish cattle as compared with the very satisfactory state in which States cattle are being landed.

3012. At the present moment there is no competition from the other side in the matter of store cattle?—No there is no competition.

3013. Do you find that in the absence of that competition the trade in Irish store cattle has fallen off?—Up to last year the trade in store cattle from Ireland was decreasing very much, but owing to the restrictions that were imposed upon Canadian cattle withdrawing them from competition, of course the farmers were compelled then to buy their supplies from Ireland, and that did increase the volume of the Irish store shipments.

3014. But is it your opinion—I take it that it is your opinion—that the trade in Irish store cattle is nothing like what it would be if the animals arrived in better condition?—That is so.

3015. You say you believe that Irish fat cattle would be preferred to foreign fat cattle, if they could be bought with equal confidence as to freedom from blemish?—Yes, I believe that.

3016. What is your reason, why should they be preferred to foreign cattle?—Because they are a better quality of beef, with less waste to the butcher who retails them. They contain a large per-centage of lean meat, as compared with the general run of bullocks.

3017. Is the fat of the American bullock discoloured by the sea voyage?—Not in the slightest.

3018. You say in your proof that Irish store cattle would also be preferred if it was not for the fact that they are so knocked about?—Yes.

3019. Did you find that the Canadian store cattle were bought more readily?—Canadian store cattle have come more into fashion, because those who undertake to feed them find at the end of the first week after they put them into the stalls, that there is a distinct improvement and an advance or a return in appearance for the week's keep. Now when we sell Irish cattle to the farmer he has first the liability that one or perhaps more of those cattle may succumb to the hidden bruises that exist on that animal at the time that he buys it, and of which neither the buyer or the seller is aware. The next is the invariable rule that it will take three or four weeks before that animal shows the slightest sign of giving a return for the food and money that have been expended on it during that time.

3020. You have very often travelled in cattle boats, I believe?—Yes, very often.

3021. Once a month, you say, during a great many years?—Yes, on an average, once a month for a great number of years.

3022. Have you gone down into the hold and 'tween decks?—Yes, to see the actual conditions on which the cattle were carried, with a view to try to provide a remedy for the evil, or to make some suggestions.

3023. You take a personal interest in the matter, and you say that the damage received by the Irish cattle in the transit cost you personally more than £500 per annum in the shape of rebate to buyers; what do you mean by that?—I mean by that, that though customers who buy 20 or 30 Irish cattle off me, certainly do make an allowance for possible bruises on these cattle, very frequently it turns out that that allowance is altogether inadequate to compensate them for the very serious loss that accrues by the hides practically falling off cattle because they are bruised to such an extent.

3024. Is that a frequent occurrence?—Yes, I have seen myself hundreds and hundreds of times that when the cattle were partially flayed the hides fall right down off them owing to the bruises. You cannot expect that these customers would come back and give you their patronage again if you coolly said to them: "Well it is no business of mine, I cannot help it." You have got to make them some allowance, and I say that

in making these allowances I place my own disbursements in the matter at over £500 a year.

3025. I suppose you sell on commission altogether?—I sell on commission altogether.

3026. But you cannot charge that rebate against the consignor?—No, that is a private expenditure.

3027. You suggest, as a result of the personal attention that you have given the matter, a number of points to which attention should be directed, and the first of these is the condition of the cattle before loading on board ship. What have you to say on that?—I believe it is a fact, in fact I know it is a fact, that cattle are sometimes bought pretty far away from the shipping port, and that they are loaded in special trains and hurried to Dublin so as to catch a boat, and that without being watered or properly fed and properly rested, they are also hurried on board of a boat. Now cattle under those conditions are not fit to stand the strain of a sea voyage, and I say that someone should to be held responsible for seeing that no animal is allowed on board unless it is in a proper condition.

3028. In connexion with that would you have them fed and watered before the voyage?—I certainly would have them fed and watered and rested after their train journey.

3029. We have been told, for instance, by Professor McCall, whom you know, that when the cattle land in Glasgow, the owners will not allow them to be watered at once?—Very rightly.

3030. You agree with them that they should not?—Yes.

3031. And you do not allow your own cattle to be watered?—No, I do not. Very great care has to be exercised as to when and how they should be watered.

3032. Would not the same necessity for care exist on the other side?—No.

3033. Why?—Because the danger only arises when the cattle reach a certain stage of exhaustion.

3034. So that you think if they were watered in time there would be no danger in it?—That is so. If they were watered in Dublin, or in the shipping port, and fed as well, and rested, it would prepare them to stand the voyage.

3035. Then the next point to which you think attention should be directed is the manner of loading; what have you to say about that?—It should be done by much more humane methods than are at present adopted. The gangway should have a reasonably easy gradient, and the cattle should be forced into that gangway by proper instruments, in the shape of sticks, and not by ash-plants.

3036. In the shape of sticks, do you say?—What we call in the trade, London sticks.

3037. What is that?—A London stick is a rigid stick with a goad attached to it. It is rigid so that you cannot beat cattle with it without breaking the stick, and the drovers do not care to break their sticks for the pleasure of beating the cattle. Then the cattle should be tied on board when they are loaded—cattle two years old and upwards, at all events.

3038. Before we go to that, the last witness mentioned in connexion with the manner of loading a pivot gangway, which he said you could explain to us?—That is more necessary at the discharging point, at Glasgow or Liverpool, or anywhere else, where the discharging comes to be done.

3039. We will take your description of it then, when you come to the discharging?—You can understand that it is a case of coming up the gangway at the discharging point, and it is a case of going down the gangway at the loading point.

3040. I asked you here simply because I thought the gradient was a matter of question in each case, so that it might be applicable, but you think that it is more applicable to the discharging point?—I think it is more applicable to the discharging point.

3041. Then we will go on to the next point that you wish to call attention to, which is the provisions against overcrowding, I think?—Yes. In the Glasgow trade especially, where cattle are loaded in bulk, there is no one at present responsible, or no intelligent person who shall say when a pen is full, or when it is not full. There is simply the quay labourer. He drives the cattle into that pen in bulk; they can take their own positions in it, and when it is absolutely full so as

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to allow him to put on the closing pen board he squeezes that in, and those cattle are left there to stand during the voyage. I should have cattle two years old and upwards tied in a certain space, so that the hole or ring to which he would tie them would indicate how closely they were to be tied. The younger cattle I would have loaded under the supervision of a respectable, well-paid inspector, who would say: "Those cattle were reasonably well stowed, they have got a reasonable amount of room; put in that pen board I will allow no more there."

3042. Then would you have an inspector at every steamer?—At the loading of every steamer.

3043. That would require a large number of inspectors, would it not?—Most decidedly, but it is a very large trade, and could afford the outlay, I should say.

3044. Who would you have to pay the inspectors?—The cattle trade, or the Board of Agriculture.

3045. You said at first the cattle trade?—The cattle trade would gladly contribute to the paying for any system of inspection which would allow their cattle to be landed in better condition, and so become more saleable in English and in Scotch ports.

3046. That is to say you think they would willingly pay fees, do you mean?—Yes.

3047. For the purpose of securing good inspection?—Yes, I believe they would welcome anything like that, even at a cost, which would enable their cattle to be more marketable.

3048. You are not authorised, are you, on behalf of any associations to make that suggestion?—No, but I am authorised on behalf of seven-eighths of the cattle trade of Glasgow to say that they would be prepared to meet any charges that might be imposed so as to better the condition of cattle landed in Glasgow.

3049. Have the trade ever tried to get up an inspection for themselves?—Yes, the trade in Glasgow approached the Castle in Dublin a few years ago with a view to trying to get them to introduce a lot of reforms.

3050. Have they ever thought of appointing a man to watch over the embarkation of cattle?—We have got no authority.

3051. Have you ever made the attempt?—We have often discussed the advisability of doing it, but we were always met with the reply that any man appointed by us would have no *locus* to go on board the steamship company's boats and say what should or should not be done.

3052. However, you have never tried it, and you have never been refused?—No, we have never been refused because we have never made the appointment.

3053. The next point is the provision of competent bullock men, not less than one to every 75 animals, and under the direct control of the captain and officers?—Yes. At present I look upon both the quantity and the quality of the bullock men who are shipped by the shipping companies as being very inadequate. From Dublin to Glasgow bullock men are supplied by the steamship companies. I happened to come across on the steamer the "Duke of Argyll," on Saturday night from Dublin. She had 247 cattle on board and she had two bullock men. Those 247 cattle were loaded on the spar deck, or the 'tween decks, and in the lower hold. In these holds these cattle are loaded in absolute bulk. If you go to the hold you see nothing but cattle. There is no way for any man to get from the hatch to the far end of the place except by climbing over the cattle's backs, with a clearance of 18 inches from the backs of the cattle to the cross beam of the steamer. I asked a bullock man how did he go there, and he said he would not take the price of the cattle in the back pens and go to them.

3054. We had a bullock man here the other day, and he told us that he walked along the barriers, but there were no barriers, I presume, in this ship—he walked along the sides of the pens, the dividing boards?—In a full pen as they were in that steamer no man could walk along a dividing board, because the bullocks were herd up on both sides of that dividing board; in fact the give in the bodies of the bullocks brought the bullocks at different points in actual contact over the dividing boards.

3055. It was divided into pens?—It is spaced off into pens without any alley-way between them. The division is the breadth of the board.

3056. What sort of a night was it?—It was a very fine night.

3057. Was there none of the cattle down?—Yes, there were, and killed.

3058. Killed?—Yes, we had a beast landed dead.

3059. Were there any other injuries to the cattle?—The cattle were generally in a very poor condition.

3060. What did you find about the ventilation?—It seemed to me that it was pretty much the same as in most steamers. There is very little intelligent effort at ventilation in any of them.

3061. You went down into the hold?—Yes, I did.

3062. What was your experience of the air there?—It was very bad. It was such as to necessitate my leaving the hold.

3063. Is there a cattle man supposed to stay down there in the hold?—A cattle man has generally a sort of roving commission to look after the cattle while they are on board. They do not suppose him to do anything but just look after the cattle.

3064. Was this animal that was killed on board down the hold?—No, it was not, it happened to be on deck.

3065. How did the accident to it occur?—It was more through want of a foothold. The beast had exhausted itself in trying to maintain its foothold, and had fallen down, and the bullock man had not noticed it until the voyage was over, and we were within half an hour of discharging the cattle.

3066. Were you on board the boat when the cattle were taken on board?—Yes.

3067. Did you observe much, in your opinion, unnecessary cruelty in the treatment of the animals?—Yes, I did.

3068. We have had complaints about the passages in the 'tween decks, the gangways between the 'tween decks not having space enough for the animals to get through, and of the consequent injury to their backs by rubbing against the coamings of the hatchways?—Yes, I have seen that take place with large animals, fat cattle. They were store cattle almost all that were on the boat on that night, so that that difficulty did not arise so much with them.

3069. Have you sent men in your own employ to look after the cattle?—No.

3070. In fact, they come to you simply as a consignment?—Yes. Talking about bullock men from the South of Ireland, that is from Limerick, Cork, and Waterford, there are no bullock men sent on board those steamers at all. The caring of the cattle is a duty that is said to devolve upon the crew. Now, I am not very well up in shipping matters, but it seems to me that, at the very time when there is a storm, when the cattle want attention, that is the time when the crew are required for other purposes. I know, from hearsay, certainly, but from a great many dealers who have consigned cattle to me, that when the real necessity for care for these cattle arises, that is the very time when they get none, as the crew are all wanted on deck.

3071. About these cattlemen, a recommendation has been made to us that they should be licensed; is that your idea?—I would look upon it as a great step in the right direction.

3072. Who would you have to license them?—The Board of Agriculture.

3073. The Board of Agriculture here or the Privy Council in Ireland, would you suggest?—Yes.

3074. Then you also suggest the necessity of alleyways and proper foothold and ventilation. I suppose you have nothing particular to say about the existing ventilation beyond that it is very bad, but have you any suggestion as to how it can be remedied?—I have examined a good many boats where there has been an attempt made at ventilation, but it has all been in the direction of pumping hot air from a hot engine room into the holds. I have a good deal of experience in ventilation derived from a business that I became engaged in in bringing live cattle from the River Plate across the Equator. That necessitated very good ventilation, and there were people in Glasgow that I got to provide a system of ventilation. It was simply a system of withdrawing the heated air from the holds and allowing the good air to come in—that always finds a means of getting in of itself.

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3075. Is this system of ventilation employed in any vessel in the trans-channel trade?—No, it is not—in none that I have seen.

3076. There is a lot of mechanical ventilation in use of different sorts, is there not?—Yes. In fact, there is mechanical ventilation on that "Duke of Argyll," the steamer that I was on the other day, but I do not think that it has been used during the last eight or ten years.

3077. It is not used?—No. In most cases it is found useless, and consequently is not used.

3078. How is it found useless?—It is found that it does not have any effect.

3079. (Mr. Field.) That the system is wrong?—The system is wrong.

3080. (Chairman.) The next thing is the manner of discharging, the gradient of the gangways, &c.; in connexion with this I should like to know about this pivot gangway, which I understand you can describe?—That is at Glasgow.

3081. (Mr. Field.) At Greenock?—Greenock or Glasgow.

3082. (Chairman.) What is the pivot gangway?—It simply means instead of the gangway going from the ship's deck to the side of the wharf in Glasgow, which is generally very steep, a space should be cut in the quay wall allowing the cattle to land in the centre of the shed as against simply the side of the quay.

3083. Then you suggest, as another point, properly-fitted spaces for separating different lots as they come from the steamer?—Yes; cattle suffer very severely at the Port of Glasgow from the want of a proper discharging place, a place where the cattle will be received as they come off the boat. The cattle are driven, and that necessitates a good deal of beating and bad usage over cargoes of iron rails and steel plates and all that sort of thing, and there is no place provided by the authorities of Glasgow where cattle shall be landed and where they shall be drawn. There was a suggestion made that a certain place should be allotted for the discharging of cattle, and that it should be fitted so that cattle could be easily drawn into lots by gates—so that the manipulation of gates would draw the cattle practically automatically.

3084. Another point that you note here is provision for officers of the Society for the Prevention of Cruelty to Animals being allowed to go on board steamers in harbour, thus affording animals the same protection as on shore?—Yes, we have frequently in Glasgow made an application to the steamship companies that carry cattle to Glasgow for leave for the officers of the Prevention of Cruelty to Animals Society to go on board these steamers to see the cattle as they are being driven from the lower hold up the gangways to the tween decks, and to the top deck, but we have been persistently refused.

3085. Do you propose to make that a matter of legislation?—I simply make it as a suggestion that would tend to better the condition in which Irish cattle would arrive at Glasgow.

3086. You attach considerable importance, I see, to the appointment of officials at shipping ports whose duty it should be to see that the cattle were in proper condition to stand the journey. I think you have spoken to that before?—Yes.

3087. And also that the cattle are properly stowed. There is no one, I think you told us, whose duty it was to see to the stowing?—There is no responsible party. My idea of the duties of that officer would be that he would not only see that this work was properly done, but that when it was properly done and the ship was in proper trim to carry the cattle, which it frequently is not, he would give a certificate to the captain of the steamer, or a permit, to sail with the cattle, and not till then.

3088. In long railway journeys in America it is well understood that the cattle undergo a great loss of weight?—Yes, most decidedly.

3089. And the dealers there can estimate the loss of weight that will occur, for instance, between the seaport and Chicago?—Yes.

3090. Have you in connexion with the Irish trade any estimate of such a loss of weight?—No, because we have not got the same means of estimating it. In America they have the weighbridge and weigh the cattle, at both ends, and in constantly weighing cattle which have gone over a certain journey, they easily

arrive at the average depreciation per head. In Ireland we do not weigh them, and in Scotland we do not weigh them, so that it is simply a case of guess work as to what they will depreciate, but the depreciation will be very considerable.

3091. (Mr. Watson.) You are of course aware that at the Irish ports there is a very complete system of inspection at present?—As regards diseases, yes.

3092. And that each beast is examined?—Yes.

3093. And that the ships are examined and the loading examined also?—No, I have never been aware that the loading has been examined except by the steamship companies.

3094. Are you not aware that there are inspectors under the Privy Council, as well as the veterinary inspectors, what they call Portal Inspectors, who inspect everything connected with the loading of the animals?—No, I am not aware of that; though I have made a good deal of inquiries, principally at the port of Dublin, I have been unable to find or to get an introduction to any official who was prepared to say to a steamship company, "That pen of cattle is too tight," or "That pen of cattle is too loose."

3095. That is as regards overcrowding?—As regards overcrowding or the system of loading cattle at all. My experience has been that there is a complete and lamentable absence of any one in authority to see that sufficient accommodation is provided for animals in ships.

3096. Does your remark about overcrowding in the steamers arriving in Glasgow apply to all the Irish ports, or does it apply to one more than the other?—I only speak about Dublin because Dublin cattle as a rule arrive worse at the city of Glasgow, than the cattle from any of the other ports.

3097. That is your experience?—That is my experience.

3098. You say you have travelled in a good many of the steamers?—Yes, I have.

3099. Have you travelled from the different ports?—I have travelled from some of the different ports.

3100. Belfast, for instance?—Yes, I have frequently travelled from Belfast.

3101. Are the cattle from Belfast better or worse brought than cattle from Dublin?—Very much better.

3102. Very much better?—Yes, very much.

3103. These cattle that come from considerable distances, from Cork, for instance, and Waterford, what condition do they arrive in?—They arrive in a condition not at all creditable to the companies that carry them; but still in a condition that is generally better than the cattle from Dublin, even not taking into account that Dublin is a shorter distance.

3104. And that you say from your own experience?—Yes, that is my experience of the matter.

3105. (Mr. Booth.) With regard to the inspectors in Dublin, Mr. Hedley, the chief inspector in the Veterinary Department, told us that there were 41 of these inspectors to whom Mr. Watson referred just now; they call them ship inspectors, and they are a class of men who are taken from the Metropolitan Police or the Irish Constabulary, or who are pensioned men. I presume the kind of officer you want is a very different class of man from that, and a man who would have vastly more authority?—Most decidedly, a man who would have sufficient intelligence and sufficient authority to say that cattle were well or ill-treated, that cattle had sufficient room, or that cattle had not sufficient room.

3106. In other words, a man who was capable of dealing with the steamship company?—Yes.

3107. Have you ever seen such inspectors?—I have never seen one at all. A fortnight ago in Dublin when I saw cattle being very badly treated and put into a boat—the boat I refer to was the steamer "Shamrock," which sailed from Dublin last Saturday week—I asked specially for someone in authority so as to draw his attention to it, and I was shown an old gentleman who represented himself to be an officer of the Prevention of Cruelty to Animals Society. When I spoke to others who seemed to be in authority there, they told me that I might be very well engaged minding my own business.

3108. When Mr. Hedley was before us he gave it as his opinion that an inspector of this kind, one of

what they call the ship inspectors, would invariably be found at the time of shipment going on board a boat; that was the impression he gave me at any rate, but your experience would not corroborate that?—I have been for the last twenty years crossing in these boats. I do not know, perhaps it is from neglect on my part, but this is the first time I have heard of the existence of the class of shipping inspectors.

3109. With regard to your suggestion about the officer of the Society for the Prevention of Cruelty to Animals going on board, that is before the ship goes out from the wharf, I presume?—While the boat is at the wharf, and while the cattle are on her.

3110. The reason you make suggestion is that there is no public authority whose business it is to attend to that matter?—Yes.

3111. Therefore you suggest that a private society should undertake that duty?—My reason for it is that in the past my experience has been that the shipping companies or the officers of the steamers have failed signally to afford that protection against cruelty to animals which all in the trade desire.

3112. But there is no inspector either of the Board of Agriculture or of the local authority whose business it is to see that the landing regulations or the regulations which apply to what goes on on board the ship are carried out?—It is not to look after the regulations that I would admit the officer of the Prevention of Cruelty to Animals Society. I would simply admit him to do on board what he does on shore, to afford protection against unnecessary cruelty to the animals.

3113. It is exactly the same thing, the cruelty and the injury go together; there is really no difference between them, at least the consequence is the same, the injury comes from the cruelty and want of attention?—Yes, in some cases it does, of course.

3114. You were speaking of the question of ventilation, and you mentioned the "Duke of Argyll," and stated that she had had mechanical ventilation once which was found not to be successful, and therefore that it had been neglected and that nothing more had been done. Is it your opinion that if it were more for the interest of the vessel to take care as to the condition in which the cattle were landed, the owner would be more particular as to the ventilation which was provided?—Yes; the steamship companies have in most cases made some rude attempt at ventilation, and I think in most cases also they have found that in practice it did absolutely no good.

3115. But they have not taken any great pains to discover and adopt what you mention is a good method?—They have not seemed to take any great pains in the matter.

3116. (*Mr. Cullen.*) From what I understand, you think it would be necessary to have qualified inspectors to see the cattle shipped in Dublin, and to visit the ship before she sails, so as to see that she is not overcrowded, and to see that the ventilation is good?—Yes, that is my idea.

3117. Then these people that are appointed are people that have no special aptitude for the business, and, as they call it in the American trade in an inquiry of this kind, they are simply deadheads for the purpose?—Yes, I should say so.

3118. You want qualified men?—I want qualified men, men of intelligence.

3119. They should just visit the ship before sailing?—Yes.

3120. And see that the hold of the ship was not overcrowded, and that the ventilation was perfect as far as they could go?—That is what I would suggest.

3121. Then, during the voyage, is it your opinion that the captain representing the owners of the ship should, as in the American trade, be responsible?—For the safety of the cattle.

3122. And that when the cattle do come in bad condition the owners of the ship should prove that the cattle were shipped properly at the port of debarkation?—Yes.

3123. That is your opinion?—That is my opinion in the matter.

3124. Do you approve of the dishorning of cattle?—Yes, I do.

3125. Do you approve of mixing horned with dishorned cattle?—No, certainly not; that is an act of cruelty.

3126. Worse than anything?—Yes.

3127. Then there seems to be a difficulty at the moment about the point of where we should cease tying cattle; there seems to be a general predominance of opinion that cattle should be tied down to a certain line. One witness said he would go so far as to tie cattle over a year old for the purpose of practically carrying out the benefits of the tying?—I do not think you can make any very hard and fast rule as regards cattle. It is perfectly well known that a three year old bullock from some districts of Ireland is not as large or not as strong as a one year old from other more favoured districts of Ireland, and I cannot see why you would make it a rule that the small three year old should be tied while the large one year old should go loose. But I would leave it as one of the discretions of the inspector who has been spoken of, so that he should say which are the cattle that should be tied. You cannot tie too many; it will do no cattle any harm to tie them; but he can say there are cattle which should be tied, and he would, of course, also have the discretion of saying there are cattle which should not be tied.

3128. Then, another thing, do you consider that those men who are in charge of the cattle on board the ship should be expert men or miscellaneous men, farmers' men, or men picked up from anywhere?—In my experience I have seen bullock men very frequently sick when cattle required minding. The men should be experts at their trade, and should carry on their trade under a licence which could be broken or taken away from them on any neglect of duty.

3129. And subject to some efficient control on the part of the captain who represents the ship?—Most decidedly, they should be subject to the captain. You cannot very well hold the captain responsible unless you place the cattle caretakers under his control.

3130. Professor McCall recommended tepid water for the drinking of cattle, but I understand your opinion is that it is impracticable partly?—It would be a very desirable thing from the Professor's point of view, but I do not think that in practice it would be desirable.

3131. From what you say I gather that you have some experience of cattle being injured in their sight, and blinded by ammonia?—Yes.

3132. A great number of blinded cattle come that way to market, I think?—Yes, I have seen 33 per cent. of the cattle coming off a steamer absolutely blind from a quarter-of-an-hour to two or three hours after they landed.

3133. (*Chairman.*) How do they manifest that blindness?—By simply walking against walls and all sorts of things like that, and from the state of their eyes—their eyes got enlarged and absolutely red.

3134. (*Mr. Cullen.*) Then the gradients going down into the holds of the ship have been complained of very much; what have you to say upon them?—In some ships that are constructed with small hatches the gradients have necessarily to be very steep, and it requires a great deal of extra persuasion, if you may call it that, on the part of the drovers, to get cattle to go down that gradient.

3135. And that is one of the sources of injury?—Yes, it is a source of injury.

3136. I suppose the suggestion for the improvement of that would be—?—The enlargement of the hatch.

3137. And the lessening of the gradient?—And the lessening of the gradient. Also I would suggest an improvement in making the gangways. The gangways at present are just made so that they protect the sides of the animals, and they allow only the backs of the animals to be beaten or goaded or anything else by those in charge. The gangways at present expose the most sensitive part of the animal, and also from a purely commercial standpoint, the most valuable part of the animal to the injury which is inflicted upon them by the sticks. I would suggest that one side of a gangway should be sparred—closely sparred if you like—instead of being really boarded up, and that there should be outside of that gangway a man path all along, so that a bullock need not be beaten to such an extent at the mouth of the gangway, that he will receive a sufficient impetus to carry him along to

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the next man, who is on board. It is very frequently done, that a bullock is badly used by one man so that he will go under the impetus that he has got so far that he comes under the control of the next man. By simply touching along, or even without anything, if a man were to walk with that bullock, that bullock would go into that gangway without any forcing and without any cruelty at all, in a great many cases. But there is an absence of footway alongside of the gangway.

3138. With regard to the "Duke of Argyll," you said there were 247 cattle and two men in charge?—Yes.

3139. I understand that you recommend a much greater number of men?—I recommend one bullock man to every 50 fat cattle, and one to every 70 or 80 store cattle.

3140. This case of the "Duke of Argyll" seems to me to be just one of those cases that ought to have been brought up by an inspector, and that the steamship company ought to have been summoned to see whether proper provisions were made during the voyage, and whether all the conditions laid down were carried out?—Yes.

3141. You think that?—I believe that the animal that did die may or may not have been in a fit condition to ship when it was shipped.

3142. At all events the fact would remain this way, if there was provision for them to be summoned, the responsibility could be fixed upon the proper people?—Yes, certainly.

3143. A few years ago, perhaps seven or eight years ago, Canadian cattle were carried very badly, and there was an inquiry into the management, and the result is that it has been greatly improved?—Yes.

3144. Now, Mr. Kirkwood from Glasgow, with regard to the Irish cattle, in his evidence says that he applied to the authorities in Glasgow on this subject. He was asked, "And you up at Glasgow, or rather the Clyde?" "Trust, when the improvement began for the American cattle, stopped doing anything for the Irish cattle, and the arrangements in Glasgow are just as they were in 1886; is not that so?" And then in reply he said, "That arose from the fact that we had been knocking at those doors for such a number of years. I have been at this Irish cattle transit business for seven years, and I have not got one step further than where I was at the beginning." Consequently the American trade has progressed and the Irish cattle trade has been neglected in Glasgow?—I believe that the great efficiency with which cattle are carried from America is due largely, perhaps more than anything else, to the action taken by the insurance companies that cover the risks from America to this country.

3145. (Mr. Field.) I think you stated that you had handled 28,000 store and 10,000 fat beasts last year, or thereabouts?—Yes.

3146. I understood you to say that 60 or 70 per cent. of those stores were more or less injured?—Yes.

3147. I presume you have crossed the Atlantic in some of these vessels?—No, I never have been to America.

3148. What would you say was the relative condition of the States cattle or Canadian cattle as compared with the Irish cattle?—They are not to be compared at all in point of condition. Canadian cattle and States cattle come off those steamers as fresh as they go on to them, and when purchased and slaughtered they are found to be absolutely free from blemish, and compare favourably, very favourably, with our home grown Scotch cattle, as to their freedom from bruises, and the absence of blemishes on the carcase when it is hung up for sale. In Irish cattle it is pointed out as almost a rarity to see a carcase of an Irish beast absolutely free from bruises of some description. We have become so accustomed to look upon them as being partially bruised at all events, that we pass them as very good even if they are a little bruised.

3149. Do I understand you to convey to this Committee that the Scotch fleshers prefer not to buy Irish cattle on account of their bruised condition?—My experience is, and the general experience of the trade is, that it is very difficult now to find buyers for Irish cattle at any price, and that it is getting increasing more difficult.

3150. Would you be inclined to say, judging from your experience of this system of carrying Irish cattle

to Glasgow goes on, that practically there will be no market for Irish fat cattle by and by?—I believe that in another 10 years, if cattle are carried in the same way and in the same condition as they are arriving at Glasgow at present, there will be no market there whatever for Irish fat cattle.

3151. Have you ever as a handler of cattle represented that very serious phase of affairs to the authorities?—I joined, with a good many other people, in approaching the Castle in Dublin about four years ago. We placed the matter in that light before them and suggested remedies, but we never got any further with them.

3152. The authorities have done nothing practically?—They have done nothing up to date.

3153. Was there any other complaints forwarded to the authorities, do you know, except yours and the fleshers?—Yes, there were a number. The cattle dealers themselves, and I believe the shippers from Dublin, joined with us in making complaints about the condition, and in making suggestions also as to remedying the bad condition in which the cattle were landed. Well, there was nothing done.

3154. And yet the authorities never moved?—The authorities, up to date, have never moved so far as I know.

3155. Am I to take it as your deliberate opinion, from your former reply, that cattle are landed worse in Glasgow from Ireland than they are in any other port of the United Kingdom?—Yes, I take it as the result of my experience, and from speaking with cattle dealers, who ship largely to Liverpool, to Holyhead, and to other ports as well as to Glasgow. They all concur with me in saying that Glasgow receives her cattle in a worse condition than any other port.

3156. I think you stated that some 33 per cent. are nearly blind, or absolutely blind, from ammonia?—I gave that as the result of my observation on one steamer only.

3157. On one steamer?—Yes.

3158. You say a third of them on one steamer owing to defective ventilation were blind, or partially blind?—Yes.

3159. Are you of opinion that licensed bullock men ought to be appointed on each boat?—Yes, a sufficiency of them.

3160. Licensed men?—Licensed men, nothing only licensed men.

3161. Is it your experience that there is no tying on board the Scotch boats?—It is my experience. I have heard of one gentleman who has succeeded in getting some of his cattle tied on Scotch boats, as the result of a long agitation, but I know of a good many influential shippers who have asked to have their cattle tied on board those Scotch boats, and have been refused.

3162. Except in the case of bulls?—Of course always excepting the case of bulls, because the tying of them comes down to be a case of necessity.

3163. I understood you to say that in your experience the Irish cattle trade has fallen off by 50 per cent.?—The fat cattle trade between Ireland and Glasgow.

3164. Is it your opinion that the extraordinarily defective state of transit accounts for this falling off?—I look upon that as the great cause of it.

3165. More than foreign competition?—We had foreign competition 10 years ago also. The good condition in which States and Canadian cattle have landed has enabled them to extend the scope of their trade, while the bad condition in which Irish cattle are landed naturally has had a tendency to lessen the customers for Irish cattle, and also to diminish the demand for them.

3166. You have travelled yourself with the cattle frequently from the various ports in Ireland, I understand?—Very often.

3167. And the opinion you have expressed as to the decrease in the trade in Irish cattle in Glasgow is the result of your own practical experience?—Of my own practical experience.

3168. It is not hearsay?—I daily, in selling Irish cattle, find an increasing difficulty in getting purchasers for them, in finding an outlet for them. I am brought daily into contact with men who buy these cattle off me, and they come to complain to me as to the bruises which render the bodies of beef practically unfit for the

purposes for which they buy them, and they naturally express their unwillingness to deal any more in Irish cattle; and I see the same men coming to me the next week and buying States cattle instead.

3169. I think you told us that it cost you something like 500*l.* a year in order to keep your customers on your hands by reason of the loss they sustain on these beasts?—Yes, those are simply gratuities given to compensate for excessive injuries.

3170. Then I understand from you, and I know in the course of my own business, that the losses accruing from bruised cattle always come on the flesher or the butcher?—Yes, to a very great extent they do.

3171. There is no responsibility fixed on a railway company or a shipping company?—No, in the present state of the law there seems to be no means of fixing the responsibility for bruised cattle on anyone.

3172. And if such responsibility was fixed on a carrying company, do you think it would lessen the evil that you complain of?—Most decidedly.

3173. Then you think that to fix the responsibility would be one of the cures for the present extraordinary state of things which exists?—I do not know whether it would be practicable, but I quite agree with you that it would tend to have the desired result.

3174. I understood you to have said in your evidence that you have seen the hides fall off the carcasses of the cattle owing to the extraordinary bruises they receive?—Yes, I have very frequently seen the hides fall off, the cattle, and wondered that cattle could live at all, and travel about and stand the market in the condition which was revealed when the hide was taken off.

3175. I ask you that question because the statement was made by a gentleman from Liverpool, and I think some of the Committee thought probably that it was overstated, but here you are, a gentleman from Glasgow, with the same experience?—It is not at all an uncommon occurrence; it is unfortunately too frequent.

3176. What does that result from in your opinion?—From trampling principally.

3177. From the want of what?—From the want of proper footholds, perhaps one of the most important things in connexion with the safe carriage of cattle.

3178. In your opinion, before these cattle are started they ought to get a certain amount of rest, and to be fed?—Yes, they should be in a fit and proper condition—

3179. To face the journey?—To stand any hardships they may have to undergo.

3180. The Chinese say that a man should never commence a journey fasting, and you are of the Chinese opinion, and think that the proverb ought to be applied to cattle?—Yes.

3181. With regard to the mode of stowing cattle, do you think the pens ought to be smaller?—Yes, I think the pens ought to.

3182. And that the cattle ought to be tied after they are over a certain age?—After they are over a certain age.

3183. Would you leave that to the discretion of the veterinary surgeon?—I would not leave that for the veterinary surgeon at all.

3184. The portal inspector or whoever it was?—Yes, I would have a highly-paid official who is independent of any shipper or any shipowner, who would be of such intelligence and such respectability that he could not be approached by my bribe, or with anybody else's bribe, but who would do even justice between all people and have a good deal of knowledge on the matter.

3185. You are strongly of opinion, I think, that a hospital pen ought to be provided?—A trimming pen; yes.

3186. Because a beast may get down, and I believe very bad cases of that kind do occur?—Yes. Perhaps a better alternative to a hospital pen would be the provision of alley-ways, because if you have alley-ways that would allow of a man going up and down them, and I do not see that you can ever carry cattle safely without those alley-ways, or expect good work from bullock men. You can then ease the cattle; if you have a bullock down in the pen, you can ease the cattle always to the extent of the gangway, so as to allow that

bullock to rise. Under the present arrangement, of course, a trimming pen is almost indispensable, but it is very frequently neglected.

3187. As a result of that reply, of course it is to be understood that you say the bullock men should be responsible and not the crew, because the crew have sufficient to do otherwise?—I believe that in all cases from all ports bullock men should be provided, that they should be licensed and competent men, and that the duties of attending to the cattle should never devolve upon the crews.

3188. There is a very important matter on which I wish to ask you just one or two questions briefly, that is the matter of ventilation. You appear to think that in none of those vessels in which you have travelled the ventilation was anything like perfect?—I look upon cattle ventilation as only perfect when the hatches of any hold of a steamer may be battened down. I know that some gentlemen may smile at the matter, and say that it is a far-fetched view; but still I persist in saying that the hold of a steamer intended to carry cattle is only perfectly ventilated when the hatches can be put over that hold, and the cattle kept very comfortable then with fresh air; and I say that that is not only a not impossible point to attain, but that it is one which is very easily attained with much less expense than the cumbersome appliances which I now see lying on steamers unused.

3189. Your system would be that of displacing the heated air?—Yes.

3190. And then the cold air of course would force its way down?—Yes. I offered last week to the Messrs. Laird, the largest cattle carriers to the Port of Glasgow, to have one hold in any of their steamers fitted up with a system of ventilation, and that when it was fitted up they might batten down that hold, and I myself would fill that hold with cattle at my own expense, and take the entire responsibility for those cattle during the voyage, as an example of what I would consider a well-ventilated hold. We have gone too long in the cattle trade in providing for ordinary weather, but it is for bad nights, I understand, that we should make provision; on good nights any steamer can carry cattle.

3191. Do you of your own knowledge know that in the landing of cattle shipowners in Glasgow have refused admission to the representatives of the Royal Society for the Prevention of Cruelty to Animals?—Yes, I have known it very frequently.

3192. What was the reason that was given why they would not allow that?—It was said they had no authority on board. I suspected the cause, but, of course, the shipowners did not say the reason.

3193. Do you say it would pay to improve the transit of cattle by reason of the better prices you would get for them?—Yes, I think it would, certainly—it would make a very serious difference to the agricultural interest in Ireland.

3194. Is it your experience that the portal inspectors in any of these ports in Ireland that you have been in have done anything to see these cattle properly loaded?—My experience has been that they keep themselves very closely out of the way. I have never come across any of them.

3195. In those vessels did you ever find any of the authorities, either portal inspectors or the Board of Agriculture inspectors, or the Board of Trade officials, taking any cognisance of the trade whatever by looking over the cattle during their voyage?—I knew that a member of the Board of Agriculture had taken some voyages with a view of acquainting himself with the conditions under which Irish cattle are carried, and I quite recognised that he did that.

3196. That was an exceptional instance, then?—Yes, but of course on a voyage there is at present no authority; in fact, these very bullock men do not owe, or claim that they do not owe, any allegiance to the captain of the boat. In fact, you go on a boat and you see cattle being ill-used, if you cannot appeal to the sympathy of the bullock men, you have got absolutely no one to appeal to for the better treatment of the cattle, and no one seems to hold themselves responsible for the treatment of the cattle.

3197. Then it is your experience as a practical man, that the matter is entirely left in the hands of the shipowners, during the voyage between Dublin and Glasgow?—Yes.

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Mr. T. C. Nelson. 3198. There is no Governmental authority or official responsibility to the country, because it is really to the country that they ought to be responsible for the proper carriage to this side?—No, there is no one at all.

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3199. The shipowners are left to do just as they like, and they do as they like?—They do exactly as they like.

3200. And there is no one makes them responsible?—No one makes them responsible.

3201. They are practically the legislators in their own domain at the present time?—That is the position of affairs that we complain of, just at present.

3202. Was there a curious case happened the other day—Michael Davitt's case—where there was a lot of cattle killed?—They were on the steamer "Olive," a new steamer belonging to Messrs. Laird, where a lot of cattle were loaded on her. It was in summer weather, and the only complaint that the steamship owners had of the weather was that it was too fine. The cattle were loaded there under the ordinary conditions, or were said to be, and they had on board this system of ventilation which seems to be in vogue with steamship owners. The cattle were smothered. I think I received something like 26 or 28 carcasses; I could not be responsible just at present for the number.

3203. Twenty-seven, I think it was?—Twenty-six or 27 dead bullocks out of one particular hold. I asked for an explanation, and the steamship owners said, of course, in the first place that they disclaimed all responsibility. They denied all responsibility for the loss or for the condition. You can easily imagine the condition of the other 100 cattle in that hold, when 26 or 27 of them died from suffocation.

3204. Were smothered?—Yes, they died from suffocation—they were smothered. The steamship owners denied all responsibility for it, and said that it was simply a case of the weather. I said, "The weather was beautiful; you could not have had anything better." "Oh," they said "that was really the cause." There was scarcely any wind, and any little wind there was blew after the steamer, and so did not favour fresh air being taken into that hold by the ventilators that were provided. The result is that the cattle were brought out of that steamer dead and absolutely useless for any purpose, and yet the steamship owners claim that they are not responsible. That happened on a boat which has been launched inside of the last 12 months.

3205. (Mr. Watson.) When did that happen?—It happened, I think, last September.

3206. (Mr. Cullen.) Coming into Glasgow?—Coming into Glasgow.

3207. (Mr. Field.) May I ask in connexion with that case, did any of the local authorities report or take action in respect to the condition of the live stock that were so landed?—No.

3208. Am I to understand then that occurrences of this kind can happen in the transit of cattle between Ireland and Scotland, and that although we have a Government, there is no one to take cognisance of such inhuman cruelty to cattle and of the loss to the people concerned?—I have received—

3209. Just answer me particularly with reference to that?—It is a positive fact that there is no one, as matters are presently constituted, to take the slightest official knowledge of the condition in which cattle are landed, whether they are landed dead or alive, and as far as I know, it would be the same if every animal on that steamer—there were 300 or 400 cattle on her—had been smothered,—there would still be no one to take any official notice of it.

3210. In your opinion the captain should be made responsible for this?—I should say the shipowners, through the captain.

3211. Are you of opinion that some responsible inspector should travel occasionally to see that the captain would keep to his work?—Yes, I believe that the Board of Agriculture or those responsible for the prosperity of agricultural interests in Ireland, should appoint some one to see over the captains or any one else, both in the loading and carrying, &c., of cattle.

3212. Do you think that with certain modifications regarding the shorter journey if something of the Atlantic system were adopted it would aid us in this matter—certain modifications, we do not want it altogether copied?—Yes, I believe that there could be a great

many things adopted from the American system of carrying cattle, but there are a great many things in connexion with their carrying of cattle that would not be suitable or would not be necessary for a short voyage.

3213. I said with modifications. Are you of opinion that if we had a compulsory insurance rate, such as is payable on American cattle, that it would provide for all these things?—There is no compulsory insurance rate on American cattle.

3214. I take it we will have to make it compulsory, but there is an insurance rate?—The shipper, of course gets that rate, that is, he gets a market quotation for the risk. But I believe, talking about American and Irish cattle, that the State in America interferes very directly and very cogently, and lays down a system of rules that would be known, of course, to the Board of Agriculture here, under which the States cattle must be put on board.

3215. Yes, and although we have certain rules and regulations here, they are not enforced?—They have not been. They have been practically—

3216. A dead letter?—Yes.

3217. And the shipowners are allowed to use their own sweet will how the traffic is carried on?—That is what they have done.

3218. Is it your opinion on the 38,000 cattle that you landed in the last year—28,000 stores and 10,000 fat cattle—there was lost nearly 11. a head?—I believe that the Irish cattle that I handled last year would have been worth more than 40,000l. more money if they had come in good condition.

3219. (Chairman) Would you repeat that?—I am deliberately of opinion that the Irish cattle that I handled last year would have realized to the owners of them more than 40,000l. more, if they had come in good condition.

3220. How many had you?—Between 38,000 and 39,000.

3221. Then it was about 11. a head?—More than 11. a head on fat, and perhaps slightly less than 11. a head on stores.

3222. (Mr. P. Smith) Your business is that of a salesman altogether, is it not?—Yes, simply a commission agent.

3223. You do not buy beasts yourself?—I do not buy beasts myself.

3224. You just sell them?—I sell them on commission.

3225. Who consigns to you, the farmers or the dealers?—Principally cattle dealers and farmers from all parts of the country.

3226. Do the Irish farmer consign to you direct to sell on their account?—Yes, sometimes.

3227. Sometimes?—Yes.

3228. Is the bulk of your business from them or from dealers?—I should say the largest part of the business would be from dealers.

3229. Who buy at the Irish fairs?—Who buy at the Irish fairs.

3230. And then sent over to you to sell at once?—And then send over the cattle to me for sale.

3231. Then those cattle while they are crossing for the most part belong to the dealers?—Yes, for the most part.

3232. Do the dealers take no charge of them?—The dealers are in 99 cases out of 100 in another fair buying more.

3233. If, as you say, 11. a head is lost on the value of each beast as it comes across the Channel, why does not the dealer take better care of his property?—Because he pays the shipowner for doing it, and the shipowner makes a distinct charge for doing it.

3234. Of course these additional precautions that we have been talking of mean an increased freight?—They would certainly mean an increased freight.

3235. And I suppose that with the shipowner it would simply be a question of money?—Of course I cannot answer from a shipowner's point of view. From a cattleman's point of view, I say that the trade, as far as I represent it, would be prepared to pay a higher freight for better accommodation.

3236. But, from the shipowner's point of view, if you paid a sufficient freight he would send over every beast like a racehorse, would he not?—I do not know that he will do that, because, you see, the thing does not bear out just exactly as you put it. As he fits his boat to carry cattle in an ideal manner, he so unfits his boat as a cargo carrier.

3237. Supposing he found that he could get 5s. a head more for every beast, would it not pay him to take better precautions?—Yes, most decidedly it would; that is really what we want him to do, to charge more, and to give us better accommodation.

3238. But why are you not in a position to insist upon it?—We come to you to help us to insist upon it. We have been asking for it for the last 10 years.

3239. Why do not you do it yourselves? Here is 40,000*l.* dropped in the course of the year; why do not the owners of the 40,000*l.* take more trouble than to come to ask us to assist?—If the owners of the 40,000*l.* were one, or three, or ten, I have not the slightest doubt that we would be able to form an association that would enable us to carry cattle better. As a matter of fact, these represent hundreds and hundreds of people all over Ireland. I do not know whether it is a peculiarity of the cattle trade, or of the Irish race, but they are not particularly united as to putting that 40,000*l.* which is lost into any fund. I suppose the suggestion is that we should put that 40,000*l.* into a fund, and start a steamship line of our own.

3240. I do not suggest that. You have a set of rival lines, one against another?—But those rival lines are not in reality rival lines. Those lines all work under a distinct agreement, which is signed by each of the lines. I thought that circumstance would be pretty well known, but it is a matter of undeniable fact that those lines that we have to deal with work under a special agreement as to freight, conditions, &c., &c.

3241. And they are not effectively competing, you mean?—No, they are not competing in any sense of the word. They compete for the trade, but simply on the same conditions.

3242. How long has that been the case; has that agreement lasted long?—It has lasted for a very considerable time.

3243. And have no fresh rivals come in?—Yes, I was a party to a rivalry myself which, unfortunately, was not a brilliant success.

3244. Have you approached the steamship owners to any extent; have you offered to pay higher freights for better accommodation?—We have asked for better accommodation. In conversation with steamship owners I have always coupled the request for better accommodation with an admission of the reasonableness of charging a higher freight. Better accommodation, from our point of view, will mean diminishing the carrying capacity of the steamer, say perhaps 25 per cent. Well, I say, that it is reasonable that if you diminish the carrying capacity of a steamer 25 per cent. you must increase the freight on the other 75 per cent., so as to equal the freight on the whole.

3245. But if the steamship owner believed that if he carried 25 per cent. fewer beasts he could get 25 per cent. more freight on the remainder, do you see why he should not be equally willing to take the smaller number?—I cannot say at all. I cannot reason from a steamship owner's point of view. He is as much interested in carrying cattle well as I am in their being carried well, because while I want the cattle so that I will earn commission off them, he wants the cattle so that he will earn freight off them, yet the conditions under which he is carrying the cattle are killing the trade, and diminishing his own capacity for earning freight.

3246. In approaching the steamship owner, you have expressed a willingness to pay more freight?—Yes, most decidedly.

3247. As well as asking for better accommodation? Yes, most decidedly.

3248. Has the reply been that the trade in general would not pay a higher freight?—No.

3249. You have not found yourself challenged on that point?—The steamship companies, as far as I know, seem to be very well self-satisfied, and the reply has been that, in their opinion, the thing was going on pretty nicely.

3250. Do beasts come over mainly at the company's risk, or at owners' risk?—At owners' risk; the company takes no risk.

3251. Are there not two rates?—Yes, there are two rates, but the company's risk rate is ridiculously out of proportion to what we call the ordinary rate. It is put there in consequence of an action that took place a great number of years ago in connexion with the "Columba." It was then found desirable to have two rates, but the one that is not wanted to be acted upon is made tremendously high, and the other is, I admit, quite a reasonable rate, and is availed of. It is a very uncommon occurrence that the steamers' rate is availed of at all.

3252. I think they are bound by law to have the two rates?—It was found desirable in consequence of the judgment that was given by the House of Lords some 17 or 18 years ago in what they call the "Columba" case, where the steamship companies had to pay for the loss in consequence of not having an alternative rate.

3253. As a fact it is so high that the great majority of the beasts come at the owner's risk?—Yes, you might say all.

3254. All?—Yes.

3255. (*Mr. Cullen.*) You spoke of a combination, can you give any evidence about this combination of steamship owners—a combination or a conference, or harmonious relations—because that is very important?—I can speak to this, there is to my own knowledge, if the evidence of one of the parties to the agreement is evidence, such a combination existing from Dublin to Glasgow.

3256. Which prevents the ordinary working of economical competition?—Yes, competition.

3257. And you would not relieve the steamship owners from their liability under common law by any contract that they should make?—No.

3258. (*Major Tennant.*) You say there are two rates from Dublin to Glasgow, I understand?—Yes, I believe there are.

3259. Will you tell me for fat cattle what those two rates are?—The ordinary rate for fat cattle is 8s. from Dublin to Glasgow.

3260. And the other rate?—I do not know it; it is never used.

3261. At Glasgow, the place where the cattle are landed is on the open quay, I think, and there is no resting place in the neighbourhood, is there?—Yes, there are plenty of resting places in the neighbourhood.

3262. I mean immediately on the quay frontage?—No.

3263. There is no place within a mile?—No, there is no place within a mile; it is not desirable that there should be, I think, in the interests of the cattle.

3264. You do not think it desirable?—No.

3265. There would be nothing gained by that?—No I think there would be a considerable loss.

3266. Do you approve of the landing and of the sorting of cattle on the quay frontage, which is also used for ordinary goods as well as for cattle?—No; I say that it is a very great source of cruelty and ill-usage of the animals, and contributes to a considerable extent to the bad condition in which we receive them.

3267. Then you would have a landing place set apart for the purpose of the cattle, but you would not propose to have any resting place there?—No, simply a landing place provided with pens properly constructed, so that the cattle could be drawn into individual lots easily, without injury to the cattle, and then taken away to where they would get proper care.

3268. You have mentioned in your evidence that in some cases the space between the ladders going down to the hold, and the coamings of the deck, are insufficient?—Yes.

3269. And that big fat cattle are injured?—Sometimes cattle are injured. There is not sufficient space for the height of the animal from the bottom of the gangway to the coamings to the hatch.

3270. Will you kindly tell me what you think that space ought to be in all ships, in order to avoid that injury?—I could not give you a very exact measurement, but I should say about eight feet.

3271. Eight feet?—Yes.

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Mr. T. C. Nelson. 3272. Do you want eight feet clear?—Yes. Of course you could do it with less than that, five feet I should say.

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3274. That is what I wanted to get at; your answer rather surprised me?—I have not been in the habit of measuring the height of cattle, so that I cannot say.

3275. (*Mr. Field.*) Six feet?—About five or six feet.

3276. (*Major Tennant.*) If it is proposed by legislation to lay down the height, it is important that we should find out what, in the opinion of the trade, would be sufficient?—I do not know that anyone in the trade, no matter how largely he is interested in it, is a better judge of the height of the animal than one who has no connexion whatever with the trade. I should say, perhaps, about six feet would be a reasonable clearance to make.

3277. Now I want to question you about the matter of inspection. You mentioned in your evidence that there is practically no inspection?—Inspection as to what?

3278. Government inspection as regards the fittings of the ships?—Yes, there is a very rigid, excellent inspection at the shipping ports all over Ireland under the Animals Diseases Act.

3279. I am not speaking of diseases, but I am speaking of fittings and ventilation, and overcrowding, and I understand you to say that there is nothing?—There is none that is visible to ordinary people, at all events.

3280. I think you went further than that; you said that for all practical purposes—?—There is none.

3281. That the regulations are a dead letter?—Yes.

3282. You mentioned, I think, that in the "Duke of Argyll" you saw that some of the pens were very much overcrowded?—No, I did not see that they were particularly overcrowded in the "Duke of Argyll"; I did not name that steamer, I think, as being particularly overcrowded; in fact, that particular steamer was not full of cattle—she did not carry cattle to her full capacity.

3283. Perhaps I am wrong with regard to the ships, but I think you mentioned that you have seen pens overcrowded?—Yes, I have seen pens innumerable very badly overcrowded.

3284. I presume you know that in the case of overcrowding, supposing that a Government inspector were aware of the fact, all that he could do would be to report to his department, and that that department could take proceedings against the offenders with the view of prosecution, and the case would come before a magistrate?—Yes.

3285. That would be the only means of dealing with the question?—What I would propose would be that the inspector—

3286. I am not asking you what you would propose; I am asking if you know that to be the condition of affairs now?—No. I understand that the procedure of anyone in authority would be to request the captain or the officers of the steamer to have—

3287. No, I do not want that. Of course, anybody may request, but when it comes to a question of enforcement, all a Government department can do is to prosecute the offenders?—I suppose so.

3288. Now, are you not aware that you, in your turn, if you had seen a case of overcrowding, could also prosecute the offenders?—No, I did not understand that.

3289. What is to prevent you?—I could raise a prosecution, most decidedly, but I would have to call as my witnesses in the matter practically the steamship company's servants. I have had very considerable experience in small lawsuits with steamship companies, and I have found that the servants are very staunch in giving their opinions that the steamship companies have done everything that is right in every matter that is brought forward.

3290. In fact, you have found that in order to get a conviction you would have to prove your case up to the hilt?—Yes.

3291. Are you not aware that that same difficulty would be encountered by any Government department?—Yes, but it would not be encountered by any Government department in this way: that at present we have no defined standard as to what is or is not a crowded pen; the standard, in fact, that is in use at present, and sanctioned by use, is that a pen is full when it cannot hold any more.

3292. But you would agree that the difficulty of getting conviction is the same in the case of a Government department as in the case of a private individual?—Most decidedly, I recognise that they would have great difficulties in getting a conviction; they might have difficulties at all events.

3293. Now you propose to get over that difficulty, as I understand, by giving to a Government inspector a discretionary power?—I would give him—

3294. A prohibiting power?—Yes.

3295. You would propose to enable him to say that a pen is overcrowded, and that he should be able to order the owners to take some of those cattle out?—Yes, that is right.

3296. Supposing the owners refused to take the cattle out?—I would give him power to say then, "Until they are taken out you shall not receive my certificate saying that this steamer is properly loaded, and consequently you cannot leave this port."

3297. Then you would propose to give power to the inspector to stop the ship's sailing?—Most decidedly. I would make it a law that no steamer carrying cattle should be allowed to sail from any given port without the captain bearing with him a certificate from that inspector saying that she was in proper trim to carry her cattle, that her ventilation and all her fittings were right, and that her cattle were properly stowed.

3298. We will put aside for a moment the rather invidious position in which you would propose to put the inspector, and I will venture to ask you this: Would you like a Government inspector to exercise a similar power in any dealings of your private business that you might be carrying on?—They certainly do it.

3299. Would you propose to give such a power to an inspector as that, to say that a ship should not go because he is not satisfied?—Most decidedly. I would give him that power.

3300. Now, I should like to revert for a moment to the question of supervision; you say that you believe that the regulations have been allowed to become a dead letter?—Yes, in a great many instances, notably in that of the foothold.

3301. What I understand you to mean is that always it is a dead letter, habitually?—Yes, habitually, as a general rule.

3302. Are you aware that prosecutions have been instituted, both by the department on this side of the Channel, and by the department on the other side of the Channel, for these very matters of regulations?—They may have been instituted, but they are very few and far between; they have not come very directly under my notice.

3303. You are not aware of the fact that there have been prosecutions?—No, I am not aware of the fact that there have been prosecutions.

3304. Are you aware that communications have passed between the different departments and shipowners remonstrating with them for irregularities, and that improvements have been made in consequence of those communications?—Not being a shipowner myself I have no means of being aware of any communications that might or might not pass between the department and the shipowners; but being in the cattle trade and daily interested in it, I go this far to say that there have been no results for the benefit of the cattle from any communications that may have passed.

3305. Do you state that as a fact that in no instance has there ever been an improvement owing to the representations of the department?—I say as a fact that the conditions under which Irish cattle were carried 15 years ago were as good in every respect as they are at this day.

3306. Do you mean in every ship?—Yes, in every ship.

3307. There never has been any improvement of any kind in any ship?—There has been no improvement of any kind, no alteration.

3308. And that you know of your own knowledge?—The alteration that has taken place in our ships (and I speak with regard to Glasgow) has been very decidedly for the worse in the condition of the cattle shipments during the last 10 or 15 years.

3309. You state positively, from your own knowledge that in no single instance in any ship has any improvement ever taken place within the last 15 years owing to representations from the different departments?—You can easily understand that neither having the honour of being a member of the department, nor having perhaps the similar honour of being a steamship owner, I cannot have the slightest knowledge of what communications may or may not pass.

3310. Of course you have no knowledge?—My knowledge is confined to the condition in which cattle land, and I say that cattle instead of improving in consequence of any communications which you say may or may not have passed their condition is growing daily worse.

3311. I quite understand that?—And that the more recent vessels are less capable of carrying their cattle well than the old ones.

3312. Are you a shipowner yourself?—I am slightly interested in some steamers.

3313. Are you interested in the South American trade?—Yes, I am.

3314. Are you owner or part owner?—I am connected with steamers in that trade. I am interested in the South American trade in so far as it is part of my business, and has been part of my business to carry live cattle from South America to Liverpool.

3315. Are you an owner?—I am not an owner.

3316. I thought I heard you mention in your evidence that you yourself had adopted a certain system of ventilation?—Yes.

3317. That was my reason for asking you that question; in what ships did you adopt certain methods of ventilation?—In the Nelson line of steamers.

3318. How did it come about that you introduced that, if the ship did not belong to you?—Because I shipped the cattle.

3319. You took the cattle?—I shipped the cattle, the cattle were mine; they were shipped on my account from South America to Liverpool.

3320. In those ships has there been any improvement of late years?—It is of late years that they have been built and that the line has been instituted.

3321. Has there been an improvement since they first ran?—They are not designed as cattle-carrying steamers; they are practically floating refrigerators for the conveyance of frozen sheep from South America to here.

3322. But they do carry cattle, and have carried cattle?—They are not carrying cattle just now.

3323. But they have done so, I mean, in the past?—They have carried cattle, and I have loaded them with cattle.

3324. And there has been considerable improvement, has there not?—No.

3325. Not in the method of carrying those cattle?—No, I cannot say that there has been any improvement in the method of carrying those cattle. I claim that we started with a very good plan to begin with, and we have reason now to be satisfied with it.

3326. What I am trying to get at is this: You say that the artificial ventilation which you have introduced

has improved the carrying power of those ships; is that so or is it not so?—Where we are at variance, I think, will be found in this, that those ships never carried any cattle without that particular system of ventilation.

3327. These particular ships did not?—No.

3328. Have you seen that description of ventilation in any ship in the Irish trade?—Never.

3329. Have you ever seen any mechanical ventilation?—Yes, I have seen a mechanical ventilator in almost every ship that I have gone through.

3330. Are those mechanical ventilators, do you think, a success or not a success?—In the Irish trade, I believe, they are not a success.

3331. They are not a success?—No; they failed to such an extent in a great many of them that they are not used; they have ceased to be used.

3332. Do you attribute that to the fact that mechanical ventilation generally is a failure, or that the particular system adopted is not a good one?—I attribute it to the particular system adopted.

3333. But you are in favour of the application of mechanical ventilation?—Yes, I look upon it as being very valuable.

3334. (Mr. Watson.) In reference to the battening down of hatchways, you speak of a system of ventilation as being very valuable which will make a hold perfectly fit for cattle when the hatchway is shut?—That is what I say.

3335. I want to ask you whether you have ever known of steamers coming into Glasgow with the hatches shut?—Yes, I have known of a case in which the hatchways of a steamer carrying cattle to Glasgow were shut.

3336. In recent years?—Yes.

3337. Would you tell me the name of the ship?—The steamer is the "Shamrock." I give it on the authority of the captain of that vessel.

3338. It is not a very common thing, I believe?—Not of daily occurrence, no.

3339. But you do know of a case?—I have it on the authority of the gentleman that I tell you, that he has been forced, for the safety of his ship, to batten down those hatches.

3340. Were there cattle below at the time?—There were cattle below at the time.

3341. What was the result to the cattle?—He did not say, but it was, I suppose, a very bad one.

3342. (Mr. Field.) Are you aware that until lately there was no organisation in Ireland, until the Irish Cattle Traders and Stock Owners' Association started, which put forward those complaints or voiced the opinion of the trade about the bad carrying?—Until the last four or five or six years there was no association in Ireland, or no combination of men in communication with the Government, either as farmers, raisers of cattle, or dealers in cattle.

3343. Until that association was formed?—Until that association was formed.

3344. Do you give it as your deliberate opinion that the condition of the cattle coming from Ireland is as bad as, if not worse than, as it was 15 years ago?—Yes, in consequence of the introduction of screw steamers in place of paddle steamers into the trade. They are worse fitted, in my opinion, for carrying cattle safely than the others.

The witness withdrew.

Adjourned to to-morrow at 12 o'clock.

Mr.
T. C. Nelson.
10 April 1894.

SIXTH DAY.

At No. 23, Great George Street, S.W.

Wednesday, 11th April 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Mr. ALFRED BOOTH.
Mr. HUGH CULLEN.
Mr. W. FIELD, M.P.
Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.
Mr. INGRAM B. WALKER.
Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary.*

Mr.
J. O'Connor.
11 April 1894.

Mr. JOSEPH O'CONNOR called and examined.

3345. (Mr. P. Smith.) You reside at Mylerstown, Naas, County Kildare, do you not?—Yes.

3346. You have been about 21 years in the cattle trade?—Yes.

3347. And you ship about 80 fat cattle on an average each week for the whole year round?—Yes.

3348. Do you buy those cattle in Ireland?—Yes.

3349. Do you sell them as soon as they get over here?—We sell them ourselves in England, and some of them in Scotland, the rest of them we give to a salesman, Mr. Thomas Swan, of Edinburgh. I graze a good many cattle, about 400 or 450 myself, in addition to the cattle that I buy.

3350. 450 cattle a year?—Yes.

3351. You also ship a few lots of stores, I believe?—Yes.

3352. But your business is mainly with fat cattle?—Yes.

3353. What part of the country do you mainly send them to?—To Liverpool at present. We used to send them to other markets, but we have sent them latterly to Liverpool in England, Edinburgh in Scotland, and also Glasgow, Perth, and St. Boswells.

3354. All the Scotch beasts are landed at Glasgow, and then you go on to other markets, I suppose?—Yes.

3355. You sent some beasts on the "Olive" last November, I believe?—Yes, we had about 80 beasts, my brother had 40—120 cattle in all, on the "Olive." At the loading of the "Olive" our man came on and saw to the cattle being tied. I generally have a man of my own, I pay him from 25s. to 30s. per week; he is left in charge of the cattle, and it is his business to see that when the cattle get down the men do not ill use them; and he came up and informed my brother that if he did not try to prevent the manner in which the cattle were being loaded, there would be a lot of them smothered.

3356. That was while the vessel was being loaded with the cattle?—Yes, my brother then called a policeman's attention to the statement that our man made, and the policeman went and saw those cattle, and went down the hold himself; he then went up on deck to the captain, and he tapped the captain's window and asked him to attend to him about this complaint of the cattle being placed too throng in the boat. The captain referred him to the mate, saying that it was the mate's duty to look after the loading of the ship. The mate himself then went and saw that they were being thronged, and he ordered some of the cattle to be put on shore; consequently the men turned back about six beasts of the last shipped, and they were driven out of the boat on to the shore. The man who was loading the boat, the stevedore, was away but some one drew his attention to it, and he came back and made a great fuss, and asked what the row was about and what was going on, as the cattle seemed to be going the reverse way to what he wanted. He was told that there were too many cattle, that they were too throng; he made some very rough exclamation,

that no —— policeman should interfere about the loading of his boat, that he knew more about it, and that no more cattle should go ashore. All the men cheered this expression. He said that he was master, and that he would not allow any more cattle to go ashore, and consequently it was stopped. It ended with the gangway being hauled out, and the boat went away.

3357. You were not there?—My two brothers were there.

3358. Did not your brother say that he would not stand his beasts being treated in that way?—My brother, who was with me, was going to Liverpool, and the Liverpool boat was about to leave at the time, and he had to run away to go to the boat. Another younger brother of mine who had 40 cattle with us remained, and he had no voice further than that he complained as well as he could, but it was of no avail and the gangway was hauled out and the boat sent away. It was a very bad night; all the cattle were more or less injured, some of them died on the passage.

3359. Would it not have been more effective if the owner of the beasts were to go and complain to the captain than to send a policeman?—The unfortunate position that we are in is that we do not know who to complain to; we are usually referred from one to another, and it ends up that there is no responsible person to complain to; no one seems to prevent this overcrowding or to listen to any complaints of ours; we are simply ignored altogether.

3360. Have you complained to the company?—We have, and there is an action pending between the company and one of the parties who sent cattle by this boat, for overcrowding, and if there is evidence wanted by this Committee, I dare say it will be given in more detail at the trial than I can give it to you, and if there is any one sent from this department to listen to the evidence given at this trial it would give as good an illustration of overcrowding as could be very well offered.

3361. Is there a trial now to go on about this particular case?—Yes, on behalf of the Cattle Trade Association in Dublin.

3362. In regard to this particular vessel on this night?—Yes.

3363. Was it a rough night?—No, quite the contrary; it was a real calm night; what is termed a hot night; whatever wind there was was aft the boat. My brother told me that there seemed to be no ventilation on the boat, and that he could not go near the cattle on account of the steam that there was in the hold. It would affect the eyes, and quite blind you, for it was coming out like out of the funnel of a steamer.

3364. There is no artificial ventilation, and they depend entirely upon the wind?—They have some ventilation, but it was a complete failure on this occasion. There was not a breath of air upon it.

3365. Who takes charge of your cattle as they are going over?—The Glasgow Company send two or three

bullock men of their own. We always send men of our own; good men that we can depend upon more than the company's men, and we make them responsible to ourselves to look after them.

3366. Which do you like best, the steamship company's men, or the dealers' men, in charge of them?—I think if they were good men it would not matter to whom they belonged, whether they were company's men, or men put there by the owners. We approve of our own men, because we take particular care of our cattle. We have a particular class of cattle, and unless they are well taken care of we should lose, and we think it better for ourselves to have our own men.

3367. Do you prefer the company having the men?—I should prefer that the men were placed under the control of the captains; that the captains should be their masters, and they would see that the men are sober and capable of taking care of the stock, and if any complaints were made to them the captains would be able to order the men to look after the cattle.

3368. Are the Glasgow and Liverpool ports much of a muchness for 'sending of cattle?—Glasgow is, in my opinion, the worst port of the lot—the worst accommodation for the landing of cattle.

3369. You are not speaking of the boats, but of the accommodation on landing?—I thought you were asking about the landing places.

3370. Tell us about that?—At Glasgow, I think that it is simply scandalous, at low water the gangway when put into the boat for the discharge of the cattle is upstairs like a ladder; it is nearly upright. On one occasion I was over myself; I do not go over very often, but generally about Christmas. At the Hallow Fair I had 130 cattle on the boat, and I was with them myself. I was just taking a particular look as to how they were discharged. It was low water, and the boat when she came alongside could hardly swing in the river, owing to the low water. I saw that the cattle were getting a tremendous amount of abuse and beating from the men who were unloading. The cattle seemed to be in charge of a stevedore, who was unloading them, and his whole desire seemed to be to get them off, helter skelter, anywhere to get them out of the way. I saw these cattle going on to a stage, and when they saw where they had to go they stepped back, and then the men would come along with sticks and prods, and twist their tails, and get them five or six steps up, and to prevent their falling back they pushed another beast, and then another, and kept propping the last one up with another beast, and the last one was made to shove on the others. There was hardly one but had their tails broken in two or three places to try and force them up; and when they came on the top there was no accommodation to draw them. All these different lots, as I saw them, were let out mixed together as they came; then there were all the different people in this little narrow space amongst barrels, and iron, and all sorts of odds and ends in the shed, and the cattle had to be drawn there. The lots are known by different marks on them, and they were being run this way and that way, and the place was like a little Bedlam about these docks. I told our men not to hurry out our cattle, and that they should be let out by themselves. We take particular care that our cattle are loaded together, and when they come to be discharged, our man is able to tell the boat company's people where our particular load is. He stands by the pen and as soon as it comes to our turn he says, "These are our cattle and they will all follow one another, and let nothing mix with them." I told the man in charge that these cattle were mine and I would not allow them out till the deck was clear. He asked me, how dare I offer any obstruction to a man in the discharge of his business; that he was there to unload, and he would unload them as he thought best himself. I said that we always got this privilege on the City of Dublin Company's boats, and the company's officers were always most agreeable, and why should they not be on the Scotch boats. He said, I seemed to have a lot to say about the matter. I told him I would not allow him to talk to me like that, and I would have to claim the protection of the captain, and I sent for him. When he came, I explained what I wanted done. He instantly told this man to allow Mr. O'Connor's cattle to be unloaded as he wished, and he obeyed in a very sulky manner. The consequence was that our cattle were allowed out by themselves, and Mr. Swan's men, and our own men, and the cattle walked away without a bit of bother.

3371. Did you wait for the tide rising?—No, the vessel was rising a little; we had not the worst of it.

3372. And you being there got them treated better than the other beasts?—Decidedly so.

3373. Then, if the owners were there themselves, or had responsible men, do not you think that the beasts would get better treated?—I do.

3374. Did you find the beasts, after going through this kind of treatment, are willingly bought at as great a price by the butcher as the other cattle?—On the contrary, we know from experience that butchers have the greatest objection to buy Irish cattle, on account of so many of them being bruised.

3375. We have had evidence from a good many of the Glasgow butchers and dealers, and they put the average damage to the beasts coming over from Ireland at something between 1*l.* and 3*s.* per head; what would you say?—That is as applied to what cattle?

3376. As applied to fat cattle that come over; that is to say, that the beast is worth 1*l.* or 3*s.* less than if it were brought over without the slightest damage at all?—The way that I answer that question is, so far as I know, that the butchers in Scotland will give 3*s.* per head more for their own cattle than they do for ours, and that amounts to the very same thing as the evidence that you have heard. Our cattle are fully worth 3*s.* less than the Scotch cattle of the same weight and the same quality, owing to the prejudice that the butchers have in favour of their own cattle, for they expect that they will be free from bruises, whereas ours might be bruised. I quite think that it amounts to 3*s.* per head. I do not profess to be an expert; but that is, as a matter of fact, quite correct.

3377. You find a great difference between the Irish and the Canadian and American beasts. The Canadian and American beasts arrive here without being any the worse for their voyage, I understand?—I know from experience that since the American and Canadian cattle have come to this country to be sold, our cattle have decreased in value and in importance in the eyes of those butchers. A good many of those customers that were good customers have left us, and gone over totally to the American cattle; and the explanation is that they find it much more satisfactory to their business, they get these cattle free from bruises—in fact they do not get any bruised.

3378. Has there been any improvement in cross-channel communication of late years?—I think very little, if any. I know for a fact that since we began to import American cattle, no improvement and no invention or expense have been spared in the construction of their boats in order to give satisfaction in the way of carrying cattle.

3379. Who pays the damage when a beast is bruised?—That is from Ireland you mean?

3380. From Ireland. Do you compensate your customers?—Whenever my customers have complained I compensate them.

3381. Do they frequently complain?—Well, we have a pretty good record ourselves as regards taking care of our cattle. We always, as I told you before, have a good man of our own who looks after the cattle, and we try as best we can to get a good part of the boat; but I have often lost good customers from having cattle bruised; they have left me and gone and bought American cattle in preference. We generally meet our customers and they say, "One or two of your cattle were bruised, and I lost so much, whatever it may be; you will not see us lose. I leave it to yourself," and we settle the matter right off. We find these men act very honestly and fairly with us, and we meet them in the same spirit.

3382. But take a man who has already taken off 1*l.* or 3*s.* because he was afraid of the beast being bruised, can he fairly ask for more?—You must know we anticipate this reduction ourselves, and we try to buy them to meet this prejudice or this loss before we start. If that loss happened to every beast we buy we should soon be in low water. I lost in two weeks last Christmas 15*l.*

3383. What do you mean by that?—I mean that a couple weeks before last Christmas the weather was very stormy. I had 170 cattle two weeks running for

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Scotland, Edinburgh, and the markets that I mentioned before, Perth and Glasgow. There were a lot of reports in the Scotch papers about the great fatality of cattle going to Liverpool, the "Blackrock" was one, and some cattle were killed on the "Mayo," and there was a good deal of talk in the papers about the stormy weather. This scare got up in Scotland, that all the Irish cattle that were out those nights would be all bruised. As a matter of fact, it followed that they would be bruised coming to Scotland as well as to England. It so happened that the passage to Scotland was not as bad, owing to the direction of the storm, as for the vessels going to Liverpool; the wind was different on the passage to Scotland, and ours going to Scotland escaped.

3384. But they would not sell by so much as 150*l*. in consequence of this alarm?—Quite so; although the men were friendly, our former customers, still they seemed to avoid buying our cattle. I instructed Mr. Swan that he might give a guarantee that these cattle were not bruised, and if they were bruised that I would pay for the damage. Even with this guarantee we lost in these two weeks 150*l*. by our cattle.

3385. You complain of delays. You say you went over in one of the City of Dublin Company's steamers, and the cattle were left eight hours after you came alongside before they were discharged?—Yes; in this very same week, in one of the City of Dublin Company's boats to Liverpool. We started on the Saturday and arrived on Sunday, after a bad night, and when we came to the landing-stage there were, I think, one or two other Dublin boats there before us waiting to be discharged, and we were left on the outside berth, and we remained there for eight hours, after which we went into the Clarence Dock and were discharged there.

3386. Do delays of that sort often happen?—Not often.

3387. Did you ever know of a serious delay before?—Well, I did; but I could not exactly say when it was; there have been delays. It is quite often in the busy time that these delays occur; there ought to be more gangs of men at Liverpool to meet the busy time to discharge these boats. These cattle, being left eight hours after a bad passage, were nearly as bad on their standing there waiting to be discharged as on the passage itself.

3388. You are now speaking altogether of Liverpool?—Yes.

3389. Are there also delays like that at Glasgow?—I think not, because boats arrive with much more time between them. It is very rare that two or three boats arrive together in Glasgow.

3390. But in Liverpool you have complaints of delay?—Yes.

3391. What sort of number of bullock men should there be to look after the cattle?—For fat cattle I think there should be one bullock man to every 50 beasts.

3392. Then you have a scheme of prizes being given?—I suggest that the captains of boats should be offered by, say the Board of Trade, or the Board of Agriculture, or by the steamship companies, or by the insurance companies, annual prizes first, second, third in merit, of say 50*l*., 30*l*., and 20*l*. for the best record for carrying safe their cargoes of cattle during the twelve months. It would be an encouragement to the captains, and should cause a rivalry of merit on the different shipping companies' boats.

3393. You are satisfied with the captains and officers, Do you think they do their best?—I do. I say that from my own personal acquaintance, I could speak in highest terms of praise of the captains and their officers; they always met us with the greatest courtesy and attention.

3394. You are speaking of what lines?—I am speaking of the two Glasgow companies and of the City of Dublin Company's boats. These are the boats on which I have always travelled, the City of Dublin Steam Packet Company and the Lamond and Laird.

3395. You are not much acquainted with the other companies?—No, I never ship by any of the other companies.

3396. Do you ship your beasts at owner's risk or company's risk?—I ship our cattle at our own risk, at the low rate by the City of Dublin Steam Packet Company. We used to ship at the insurance rates, sometimes by the Glasgow companies. We find from

experience that the Glasgow companies charged as a matter of business too high a rate for their insurance, they charged at the rate of a penny in the pound—that is, for an 18*l*. beast it would come to 1*s*. 6*d*. We find that those insurances, if paid on all our shipments for all the year round would amount to something like 300*l*. They only pay us for mortality cattle, that is, for cattle that are killed. They put a "walk ashore" clause in which is simply a fraud; it means that if the cattle walk after they are put on shore they are not liable; it also means that if the cattle are slung on shore, that is, wound up with their winch and lifted on to the shore in a sling, and the cattle walk, they are not liable. We know that owing to the short journey and the short distance, unless the cattle have had a very bad time of it, they will not be killed outright.

3397. You do not find them better treated when they are sent at company's risk—it is only death that they insure against?—That is all; still, we do not insure at present. We had a case where there were some cattle killed that were insured, and there were three other parties as well who had insured. The claim amounted to something like 1,400*l*. and the actually insured cattle that were killed the company declined to pay for. They said they were not liable, although they had formerly paid us one or two small lots that were killed, but when it came to the question of a large loss they declined. We employed counsel—the Solicitor-General, Mr. Walker, and Mr. Adams.

3398. When was that?—Three or four years ago. It referred to the "General Gordon." The upshot of the matter was that we went to the very last extreme of serving them with a writ. Their ground for refusal was this; that they were only liable for negligence on the part of the company or their servants; that they did not insure against the act of God or the perils of the sea. Their agent used to ask us whether we would insure our cattle; we said that we would, and we always thought that we insured against all loss, but when it came to the question of a large loss they declined to pay us, but at the eleventh hour they paid us, and they did not go to law. The question still remains open as to whether they are right or wrong.

3399. But you think that beasts ought to be insured?—I am of opinion that there should be a compulsory insurance established for all cattle leaving the ports of Ireland.

3400. And you would insure not only against death, but against injury also?—Quite so.

3401. Of course, if you insist upon the steamers taking greater precautions, you will have to pay greater freight?—Well, we are prepared for that. I also hold that if compulsory insurance was established, it would show that we took an interest in our cattle. They are a valuable cargo, and our live stock being the only staple trade in Ireland, in the face of the foreign competition, we want to exert all our energy to improve the character and condition of our cattle, and raise them to the highest standard, so as we shall be able to compete with everything else in our trade.

3402. Have you ever been to the companies and said to them, "If you will give us better accommodation "we will pay more freight"?—I have spoken to some of the companies—that is, the heads of the Glasgow companies—Messrs. Wells and Holshan, and Mr. Barry Mann, two very able men, who are the agents of these two companies. These men are always most anxious to do all they possibly can to assist and improve the carrying of the cattle, and they are always very attentive to everything; they are civil and courteous at all times when we trouble them. They only say: We wish we could give you better accommodation, and that we had power to give you better terms of insurance. They have offered to meet us and consult in the matter, and to come to some friendly arrangement with regard to the insurance on a business principle. It has not gone any further than that. At a meeting of our association (and I am empowered to speak for all the members of the Irish Cattle Trade Association) they would all approve of a compulsory insurance, that is, that all the cattle should be insured. Consequently, I say that if you insure all the cattle leaving Ireland, it can be done at a moderate rate. By doing it for a year round it would amount to a considerable sum. For instance, as it at present exists, it seems nobody will insure unless it looks a bad night, and that is only a few times in the year; consequently the insurance companies are at a disadvantage to a certain extent.

3403. If you put an insurance on that you would insist upon being there the whole year round; you would be able to get it down to a reasonably low figure?—That is the principle I approve of.

3404. Besides that, there is the question of improved fittings on the steamers. A good many witnesses have strongly put before us the necessity of having much smaller pens; do you approve of that?—I do. I saw a model of Mr. Rooth's that he showed to our Cattle Trade Association, and I strongly approve of it.

3405. I do not think you need go into detail?—In the broad principle, I agree with that. I approve of the animals' heads being placed in the centre of the ship.

3406. Do you approve of the cattle being tied up?—All cattle over two years old should be tied up. I also approve of their heads being placed inwards, and that the double rows should face each other, so that cattle placed in this position would be stouter, and stand the sea voyage better; it cheers them up. With their heads fastened to the side of the ship; they get a crack on the head, and it knocks the courage out of them, and they fall down.

3407. Would you approve of an alley-way between the two rows of cattle?—I would; in the event of beasts getting down, they could be relieved.

3408. You have already spoken of the faults of the gangway, and you agree with a good many witnesses that in Glasgow in particular there ought to be some arrangement by which there shall not be steep gangways at any state of the tide?—I go further, and say that all steamship companies should adopt some means, which I suggest should be on the principle of the landing stage at Liverpool, where the floats go down to the boats, on a principle that they would rise and fall with the tide, so as to make the vessel from the quays right on to the boats always level, or as near level as possible. For instance, if this vessel was moved out, and the sheds of the companies were by the side of their boats, the gangway would rise and fall. This will illustrate it (*describing*). Suppose there was a piece cut out of the centre of the table, and *this* was the shed; the gangway would rise and fall down to the vessel's side; and *this* would be always level.

3409. You will agree that very likely different arrangements might be needed in different harbours; for example, Liverpool has a very wide river and Glasgow a very narrow river, but some arrangement ought to be made by which the vessel should not have to be climbed up?—At the landing-stage at Liverpool this necessity does not arise because the stage always fits to the side of the boat level. At the docks at Liverpool it is quite different; it has a solid wall and the shed is there, and this would apply to all places where the wall side is where the boats discharge the cattle.

3410. Then you think that the gangways require to be wider and have smoother boarded sides than they have at present?—I do decidedly.

3411. Do the beasts suffer much from this cause, from the narrowness?—There has been an improvement lately. Formerly it used to be done at the Scotch boats loading places in Dublin with planks placed on two barrels, and the cattle were pushed along these and had their ribs broken, when they were wedged in. There has been an improvement, but it can be much further improved, if the sides of all these gangways were boarded and smoothed. When the cattle get on to the boats or into the 'tween decks, there is a very narrow passage, and there are two ends that jut out, and they are only get protected in a temporary way. One of these shifting boards is tied with a head rope and two very ugly ends project. When these cattle are coming down (they have only a passage wide enough for one beast) one beast is driving the other, and these beasts strike into the protruding parts of the gangway, and they get bruised from striking them. Then, again, those gangways are much too steep in going into the holds and the 'tween decks, and they are too narrow and too small.

3412. Then you do not approve of any cattle being carried in the lower hold?—I do not approve of any cattle being put in the lower hold at all.

3413. Why is that?—I think the 'tween decks and upper decks are quite sufficient for the cattle, the lower hold is too far down, and with the three gangways the cattle get frightened altogether when they get down into the hold.

3414. It is the difficulty of getting up and down?—Yes. The ventilation is also worse in the lower hold. We all object to going down to the lower hold, especially for fat cattle. If all fat cattle go down to the lower hold it is morally impossible but that they will get squeezed and bruised have their tails broken. It is like driving a wedge down to the very bottom before they get there.

3415. Do you approve of the London goad?—I do. I think that all the companies should supply their men with one class of stick, say two feet long, for use at the loading of the boats, and about three feet in the fair and markets on the same principle, as the stick used in the London market.

3416. Do your men use that?—They do with a small goad, not a very sharp one, but on the same principle as they use it in London.

3417. We have heard that explained by several witnesses. Then you think that all cattle over two years old should be tied?—I do.

3418. And that no ship should go to sea with cattle unless properly in ballast; do you find ships very unsteady when they are light?—At the busy time of the year when the boats are making return journeys, they are rather in a hurry, and if stormy weather comes on it is very unsafe to put cattle in a boat that has not ballast in her. I suggest, instead of cattle being put in the lower hold, that there should be ballast, cargo, or water ballast.

3419. You have got a special suggestion here that each owner's beasts should be loaded separately; do you think that that would save trouble and labour when the beasts are coming out again?—I do. I say distinctly that if the bullock men are under the responsibility of the captain, that these men should, in addition to the company's men, see that each owner's lot is loaded separately, and that when the last of each owner's lot is sent on to the boat, one of these men would follow the last of them, and remember where they were shut off, and the next lot would come off the same. At the discharge of this boat each lot could be followed, without the slightest trouble, in their respective lots, and go on to the stage or quay wall, we will say, at Liverpool, and go right away without any damage or delay at all; the whole lot of the damage and injury is caused by the cattle being unloaded fore and aft, and let out on the quays, and all the different drovers trying to draw their cattle. It often takes hours waiting and blocking up the way, and an awful amount of injury is done to cattle by this delay. It could be easily remedied.

3420. If you had smaller pens it could be more easily done?—Yes, and you could shut them off to the very last of each lot.

3421. You have been speaking about the boats; what about the railway traffic in Ireland; are they comfortably carried on the railway?—On a good many of the railways, and at a good many of the stations of the Great Southern and Western Railway of Ireland they give us a very good service; the only drawback to the service is that at some of the stations they do not give guides or pens in order to put the cattle into the waggons, and it is absolutely necessary, and it should be the law that there should not be any cattle banks on any railway in Ireland that had not these guides on the same principle as in England, and that no train of waggons should be put on to a platform where these guides and pens do not exist. As a matter of course, the cattle have to get a certain amount of beating to get them into the waggons, where there are no guides, which would be all avoided if these guides and pens were there.

3422. And when they are put into the waggons, are the waggons of good construction?—They are.

3423. Are they as good as the English waggons?—I should say they are as regards the holding capacity and the inside of the waggons, but I have a very strong opinion that there could be a much further improvement in the way of cattle waggons by having a better connexion with regard to the buffer springs, and that if the springs that are used in passenger carriages were applied to the cattle waggons it would save an amount of shaking and injury that occurs by the buffers being apart. The waggons they are making are very good on the Great Southern and Western Railway; in fact no better waggons need be made, but the couplings want improvement. They should be made on the same principle as those used for the passenger carriages, say with screw couplings.

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3424. You mean the same couplings as are used for passenger carriages?—Yes.

3425. In Scotland we have got those?—You have, and a friend of mine who saw them in use on the Caledonian told me of them. It is a good while since I made the suggestion to a friend of mine, and he said that he never saw anything to act better for the train on moving away, instead of that chuck, chuck, chuck, that occurs when the couplings are apart; it is a vast improvement.

3426. I suppose it is pretty rough on a cattle truck?—Yes, and especially when the train is started by an unskilled driver, who does not know his work. A good engine driver minimises this.

3427. Had the beasts got much knocked about by the drovers, coming from the fairs to the train?—I do not think so; the only knocking about is when these pens are not on the station.

3428. How about the sticks?—Of late years there has been a great improvement in the fairs; a most marked and visible improvement since the Humane Society have sent down officers of their society to those important fairs, and the policemen are at nearly all those stations and at the fairs to prevent this beating.

3429. Have they got them to use goads instead of sticks?—No, they have not. They do not use them; as a rule they are not up to that in the country. It was our Cattle Trade Association that first took these steps, and brought the Society for the Prevention of Cruelty to Animals forward to look after those matters. They took an active part in getting it done.

3430. You have not said anything about the arrangements in Dublin and elsewhere for getting the beasts into the boats; are you satisfied with that?—I have mentioned with regard to the pens and the gangways. Now, as a matter of fact, the yards in Dublin which I have had to do with, namely, the City of Dublin Steam Packet Company, have splendid yards. Nothing need be better.

3431. But you find the gangways too steep on the Irish side as well as on the Scotch?—Decidedly so. One of the sources of the greatest injury is done at these gangways.

3432. (Major Tennant.) I gather that your view is that there should be greater responsibility thrown upon the shipowner for the damage done during the voyage?—That is quite true.

3433. Would you like to stop them contracting out of their responsibilities?—I would. I would like to see the responsibility put upon somebody; at present we have nobody to make responsible.

3434. I gather from you that you think the injury that is done to cattle is not due to one cause, or one particular prominent cause, but rather that the injury arises from many causes, and you think that a general improvement is wanted?—Quite so.

3435. If you are going to make the shipowner responsible, it is very important that you should be able to show that the cattle when handed over to the shipowner has not received any previous injury; or has not been injured by this land journey in Ireland. How would you propose to do that?—In the first place, as I mentioned before, by providing better pens at important fairs and important stations.

3436. That is not quite what I mean. I want you to tell me this. If you are going to make a shipowner responsible, surely it is necessary that you should be able to say that when you handed the goods to the shipowner for transit they were in good condition?—I hold that the shipowner's responsibility should start when the cattle were in the yards previous to going on board.

3437. Supposing that the cattle had been bruised before they are handed over to the shipowner?—It is my experience, and the only way I can answer the question is, that hardly any bruises take place.

3438. That is what I am coming to. You know as a matter of fact that when the cattle are killed in Glasgow and Liverpool, those carcasses are frequently very much bruised?—I do.

3439. Can you tell positively whether the carcasses of the cattle are not bruised during the land journey?—You want to know if the cattle are killed in Glasgow?

3440. Killed in Dublin. If they are killed in Dublin, are these carcasses bruised or not bruised?—As a matter

of fact, I know from experience that hardly any cattle in Dublin market are bruised, with the exception of stick bruises.

3441. But they have stick bruises?—Yes, and these are very easily distinguished from other bruises. Anybody who knows anything about cattle, when they see them struck, can form a correct opinion as to the nature of the bruises; the stick leaves a little blue mark or indentation that is easily traced on the surface of the meat.

3442. Then you would not propose to make the shipowner responsible for any stick bruises?—Decidedly so, because I know from experience that there is far more of the stick used on the boats; ten times as much as any other place out of the boats.

3443. If you are going to make the shipowner responsible, how do you propose to show that the damage from stick bruises was caused on board ship, and not caused before the embarking?—If the goad which is used here in London were used, they would leave no mark, but only a little prod, or little indentation, and, of course, a little mark made by a goad would be easily distinguished from a big bruise.

3444. You would do away with the bruising by the use of the goad, and you propose to make the shipowner responsible for all other damage?—Quite so; the goad mark, and the goad bruises when used, would draw the line at a very broad angle, you understand.

3445. (Mr. Field.) You are a member of the Irish Cattle Trade and Stock Owners' Association?—Yes, I was one of the first.

3446. Some of the gentlemen composing this Committee wonder why no complaints were ever sent in to the authorities. Is it your experience that until you had an association there was no use making a complaint in any quarter?—That is quite true.

3447. Nothing ever came of any individual complaint made by a cattle trader?—I may say, from experience, that I know very few individual members who would ever wish to make a quarrel or go to law with a company. They would be more or less beaten. If they succeeded in one case, it would be appealed against by the company, and it would end up with expense and loss of time, and it would not be at all encouraging for them to do it.

3448. I wish to get a complete and concise answer to this: Was it your experience as a cattle trader that until this association was started, whether you complained to any official authority or whether you complained to a railway or a steamship company, as a rule no practical result followed?—It is so; that is the case except in slight matters, such as procedure of a small nature, such as outshipping, or anything like that, we always get our turn. We have always been treated on the boats with which we have dealt with with great courtesy, and we have got a good part of the ship, and we have always been well treated in that respect; but when there was a complaint as to an improvement we hardly ever succeeded until the association started.

3449. Then may I take it as the general result of your answers that individual cattle traders found no result whatever coming from their complaints, either to officials in authority or to steamship companies or railway companies?—That is so.

3450. I think that disposes of the arguments used here about the want of complaints. Now with regard to the overcrowding on the "Olive." Your brother has a large practical knowledge of the fact that the policeman was simply put off that boat by the stevedore?—That is quite true. I may say, too, that it would be fairer for me not to say very much about this very question of the "Olive" further than I have stated to the chairman that if this Committee wished, or the Board of Agriculture wished, to send a reporter to listen to this case that will be tried, that no better illustration could hardly be given than the evidence that will be produced in that case, and I think it will be fairer for me not to go into it.

3451. Is it your experience that there is no person responsible to see the cattle properly loaded on board those vessels—is that your own experience?—That is my experience.

3452. Have you ever in the course of the many years you have been engaged in this business seen anybody going over one of those vessels or a policeman acting for the Veterinary Department, or some person appointed by the steamship companies going through the vessel

to see if she was properly loaded?—I think not, except that in some of the boats, the City of Dublin boats, for instance, there are men belonging to the company who see that a certain amount of beasts go to each pen, and if large cattle generally are set off for these pens, I think that they cannot carry them, and the would be generally thronged. We ask for a beast less when we have large cattle, and it is generally allowed to us on the City of Dublin boats. On the Glasgow Company's boats the accommodation is hardly fit to carry large cattle at all.

3453. In your experience is the reason why additional men are wanted for this particular portion of the business because the companies merely want to see their vessel fully loaded rather than anything else?—I should say so.

3454. It is not in the interests of seeing the vessel properly loaded from your point of view?—No, I think not.

3455. It is rather from the opposite point of view, in order to take a full cargo?—Quite so.

3456. Is it your experience that in some of the cases, when you travelled with the cattle, that the boats have not been properly trimmed?—Yes.

3457. You are prepared to state that authoritatively?—I am.

3458. Are you of opinion that water ballast ought to be carried in these vessels, the same as in the oceanic transit?—I do decidedly say so. I say that no cattle should be put in the lower hold, and that cargo or ballast should be placed in the lower hold, and that no vessel should go to sea without being properly trimmed and properly loaded.

3459. And you think that someone should go to see to it?—Quite so.

3460. That it should not be left to the shipowner to load the vessel as he likes?—Decidedly not.

3461. Have they refused payment for damage done?—Decidedly.

3462. Have you any cognisance of hospital pens being in those vessels?—On the boats, of course. I only speak of those in which I travel. I say this much that the City of Dublin Steam Packet Company are the best company loading in the port of Ireland for carrying cattle. I do not say it in any way in compliment to Mr. Watson, but I know from experience that that is so, that our cattle have a better record, and are carried safely by his company.

3463. Are there any hospital pens?—As a rule the gangway is left as a hospital, but that is not sufficient; there should be a hospital pen that at least should accommodate ten cattle, so that if a stormy night came on there should be a capacity to hold ten cattle on each deck.

3464. Do you think that there should be a passage through these cattle so that if a beast gets down it should be removed?—Yes.

3465. That the different lots ought to be loaded and discharged together?—Decidedly, where possible.

3466. What is your experience with regard to a beast being trampled upon; what do they do to him when he gets down?—In a good many of the boats the beasts can hardly be relieved. The difficulty of getting through a passage or alley-way to relieve these beasts is very great; when one beast gets down, generally another falls upon the top of it, and they generally all get down together, and the head ropes have to be got, and if it is a bad night it is very nearly an impossibility to do it.

3467. It is just a question of the survival of the fittest?—Yes, and the short voyage prevents them being quite killed.

3468. Are you of opinion that the ventilation is defective?—Yes.

3469. That it is a general rule that the ventilation on board vessels employed in the cattle trade between Ireland and England and Scotland is defective; is that so?—It is. I never saw to my mind a boat that would be properly ventilated for cattle. When there is windy weather there would be plenty of ventilation; but take a hot night; of course the ventilation when it is windy weather or blowing is quite sufficient under ordinary circumstances; but I am speaking now more generally of the Scotch boats. As a matter of fact when the ships get to Greenock in a calm season it is generally

very foggy in the river, and the ships have to go dead slow right from Greenock up to Glasgow, and very often it takes five or six hours to get up the river, and consequently on the boat there is scarcely a breath of air, and there are large mountains on each side, and there is a dead calm; and unless there is proper ventilation on these boats the cattle suffer far more from Greenock up to Glasgow in this sort of weather than they do during the whole of the rest of the journey. I have seen cattle landed at Greenock in good condition, and I have seen them awfully bad by the time they reach Glasgow. Consequently if there is ventilation on the ship it would be worked by steam belonging to the vessel.

3470. You need not go too far into that; but is it your opinion that some system of compulsory ventilation ought to be introduced on these cattle ships; is it your opinion that the Government ought to interfere to make the cattle ships adopt compulsory ventilation with a view to preserving the worth of the animals?—Yes.

3471. You give that as your opinion as a practical man?—I do.

3472. You think that the whole of the present system is defective?—I hold that the ventilation should be part and parcel of the machinery, which goes as far as I could advise.

3473. Practically so far as you advise, either a screw or a paddle boat would do?—Certainly, as regards the carrying of the cattle.

3474. It is your experience that the steamship companies deny their liability as regards the carriage of cattle?—It is.

3475. They hold themselves irresponsible for anything as regards cattle?—Yes.

3476. It is not only your opinion, but it is your experience?—They say that they are very sorry and all that, but it does not go any further.

3477. Is it your experience in earning your livelihood in this particular trade in which you have been engaged for years that there is practically no one responsible for any injury to the cattle?—Noboby, as far as I remember. When we have a grievance arising from the injury to our cattle, we have no one to apply to for satisfaction or recompense for the injury done to them. We have nobody that we can say is responsible.

3478. So far as your experience goes, you think that legislation does not reach the steamship companies?—Decidedly; that is so.

3479. They are allowed to do as they like?—I have never seen a Government official on board to whom I could complain of our cattle being badly treated.

3480. From the time that you leave Ireland, after the cattle are submitted to the Veterinary Department of the Privy Council till they come to be landed in Liverpool, practically there is a vacuum in the law, that the shipowners can simply do what they like; have you ever seen them brought to book for anything that occurred in the sea passage?—I have not; I have often wondered why there was not a Board of Trade inquiry or some action taken with this "General Gordon," there were 140 cattle killed; there was a fearful state of affairs on this passage to Glasgow.

3481. Now about the insurance, you are of opinion that we ought to have compulsory insurance?—I am strongly of that opinion.

3482. What is your experience of insurance?—I think it is a fraud, that this walk ashore clause and total loss is a fraud.

3483. Do the steamship companies make the men sign what is called a contracting out clause which really exempts them from all liability or payment for anything that may occur?—Yes, in the case of cattle uninsured.

3484. They contract themselves out of the law?—Yes.

3485. They contract themselves outside the carrier's law, and practically leave no legal obligation on themselves, no matter what may happen?—It seems so. I do not profess to know the law; there is no law for us.

3486. You would strongly recommend this point, you are strongly of opinion that we ought to have compulsory insurance?—I am.

3487. Are you aware of any such system being in existence?—Yes, at Waterford.

3488. Are the results satisfactory?—Yes.

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3489. Do you think that compulsory insurance would cause an improvement in the way of cattle carriage?—Decidedly.

3490. And less injury and less loss?—Yes, because it would enhance the cargo to the extent that it would make it a valuable one.

3491. You are of opinion, as a member of the Cattle Traders' Association, that it would bridge over certain difficulties by giving the carrying companies a larger freight and enable them to meet the expense which would be necessary to have the better carriage?—Decidedly so. I am in favour of a fair freight to the steamers for the carrying of the cattle. If they give us an improved carrying of our cattle for this insurance, I would make this insurance part of the freight to meet the improvements that we suggest.

3492. You suggest that it would be a root cure for this business?—Quite so, and let this insurance be a freight or an extra on the better carrying of the cattle. I am in favour of a fair freight. I do not approve of very low freights or very cheap freights by reason of competition. I would rather see an honest freight and get a good carrying.

3493. You are of opinion that the railways should have pens at all the railway stations as they have in England?—Yes.

3494. You think the present waggons would be improved if there were spring buffers and screw couplings?—Yes, on the same principle as the passenger buffer.

3495. You are opposed to their being so much shunting and delays on the journeys?—Yes.

3496. As a member of the Cattle Traders' Association you know that they took the preliminary steps in having the policemen of the Humane Society at the fairs.—Yes, I do.

3497. And you believe that it has lessened considerably the ill-treatment of the cattle?—Yes.

3498. Do you approve of Mr. Rooth's model?—I do.

3499. Would it prevent the beasts being trampled upon and enable them to be taken out?—Yes.

3500. Are you in favour of feeding and watering the cattle?—Only before shipment after coming a long journey by rail.

3501. You are also in favour of hospital pens, better ventilation, water ballast, and the cattle of each owner being loaded together?—Yes.

3502. You also think that a great improvement might easily be made in the loading and unloading by having better gangways?—Yes.

3503. You think the shipping companies are responsible, because they take the matter in their own hands, for the loading and unloading of cattle. Is it not their officials who load and unload the cattle?—Yes, the company's men.

3504. Are not the cattle taken out of the company's yard and unloaded by them?—Yes, assisted by the owner, except in the case of booking through traffic, when the company take exclusive charge of them.

3505. But whether booking through or not, are they not in the custody of the steamship company when in their yard, by reason of the freight paid?—They do not take charge of them until they are on board.

3506. They do not take charge of the cattle until they are on board?—That is so unless booked through cattle.

3507. As the net result of your examination, I think you are of opinion that compensation should be paid by the railway companies for damage done to cattle, or caused through the negligence of their servants?—Decidedly; fix the responsibility on someone, some persons who would be responsible for the injury done to the cattle.

3508. You were asked about the shipping company taking cattle in a bad condition, are not all the cattle inspected by the veterinary surgeon?—Yes.

3509. Would he pass into a ship a badly bruised animal, or an animal in a damaged condition?—Certainly not. As a matter of fact, the bruises cannot be seen until the cattle are actually killed.

3510. Do you ever remember a case of the veterinary surgeon objecting because they are in a bruised or a bad condition?—The inspectors of the Privy Council who inspect our cattle and pass them will not

see a beast shipped that is not in a fit state to make the passage.

3511. The net result of all your examination comes to this, that you think something ought to be done by means of this Committee, so that the liability should be fixed upon carriers of cattle by sea or land?—Yes.

3512. (Mr. Cullen.) You referred to a policeman who was ordered off a boat in the case of the steamer "Olive"?—Yes.

3513. We had it in evidence that there are 41 inspectors for the whole of Ireland, was that policeman one of these people?—I think he represented, as far as I know, the Prevention of Cruelty to Animals, and he was there to see that there was no violence used.

3514. But there was no man in authority, and if he was, he was an incompetent man?—I do not exactly say that he was incompetent, for as far as he had the power he acted.

3515. But he was not an expert, and he did not go down to the hold and see to the proper loading?—He went down and told the captain that these cattle were being overcrowded.

3516. But he was ordered off?—That is not correct, the policeman was not ordered off.

3517. Was that man in charge?—He showed his authority so far, as I tell you, but he went to the mate, and the mate ordered some of the cattle to be put on shore. Six of the cattle were actually put on shore, and they were putting others ashore after the policeman drew the man's attention to the matter; then the man who was loading the boat, the company's man, interfered and stated that he would not allow it.

3518. And he stopped them, and said that the mate was no one?—He seemed to have the upper hand.

3519. The Glasgow landing place you said was scandalous, and it was upstairs like a ladder, is that improveable?—The improvement that I suggest cannot be done unless there is a gangway cut out of the solid wall.

3520. But that is a mechanical difficulty that can easily be overcome?—It can be done decidedly, and ought to be done.

3521. Talking about that, would you approve of a gangway of that character as is used in Dublin for passengers, seven feet high from the Holyhead boat on to the road to go into the yard. Do you know the passenger traffic?—I know it quite well.

3522. You mentioned a roadway for the cattle; would you approve of that?—I would approve of anything that would bring the gangway level with where the cattle would come off the stage. I do not think that this subway would actually apply, the tide would make a serious difference. I do not know how you could apply a subway, unless you adopt the principle of rise and fall.

3523. You are of opinion that the owner's men might with great benefit look after their cattle?—Decidedly so.

3524. And I understood you to say that they had no authority whatever to act, that it was only just looking after them, that they could not order the cattle about on board the ship, that they had no real authority?—They have no real authority.

3525. Do you know anything about the "Blackrock" and the cause of the loss on that steamer?—Not being a shipper by that company, I only know from what I was told, and I could not answer that.

3526. Then with regard to the eight hours' detention, I presume that was the case?—That actually occurred to myself.

3527. But I want to know whether that was not a special case?—I have seen it more than once when the City of Dublin Steam Packet Company's boats have arrived two or three together at the landing stage there is not sufficient accommodation at the landing stage through the influence of the tides. I am of opinion that the City of Dublin Steam Packet Company's at Liverpool have not sufficient men to unload the vessels in a quick off-hand way. I have often seen only one gang of men, and they have no time to rest, and they were fagged out. I suggest that two fresh gangs of men should be appointed to meet the emergency, and that that should not be allowed to occur.

3528. And you think that the landing stage for the accommodation of three boats at one time is quite

sufficient at Liverpool when three boats are lying alongside?—Yes, but I do not think that they have the same privilege of berthage. Three vessels can be discharged all at one time and on a level.

3529. And when they go into the dock, the dock water is impounded, and it is always on a similar level is it not?—It is not, the water escapes. The only drawback there is as to the landing stage at Liverpool is that the gangway leading from the stage on to the quay wall is very steep and very slippery. I have seen the cattle fall frequently in going up to the docks, and the company's men distribute ashes on the gangways, or the cattle could not get up. At low water it is morally impossible, at high water it is right enough.

3530. Would you suggest asphalt?—No, merely battens or those little foot-holds.

3531. As a matter of fact, since this Committee has been sitting they have been asphalted. As to the compulsory insurance, one of the principal things in that compulsory insurance would be that a larger rate would certainly be charged upon the cattle. Could we put the shipowners exactly in the same position as the cattle men and owners of cattle? At the present time you know perfectly well that if you are a cattle owner, and you have a diseased animal, you are brought right up to the Court, and you have to defend yourself. In fact you have to prove a negative; do you see any reason why the shipowner should be released from a responsibility of the same kind?—The only person on whom I could place the responsibility would be the captain; we want the captain to be responsible for carrying and taking care of them, and if anything goes wrong, then we can prosecute him for allowing irregularities to occur.

3532. I understand you to say that you want the shipowners to have certain regulations laid down for them, and if any accident occurred that they would have to prove that those regulations were carried out?—I would make the bullock men responsible to the captain, so that if any irregularity occurred we would call the attention of the captain to it. I know as a fact that the captains and their officers, so far as they possibly can, give us all the assistance in their power; their only regret is that they cannot do more for us.

3533. (*Mr. Booth.*) You think that if the responsibility as to the condition of the cattle on landing rested on the ship the natural result would be that the shipowners would adopt effectual means of ventilation in their own interest?—I do.

3534. That would be one of the effects?—Decidedly so.

3535. Improved ventilation, as well as other things, would be in the interest of the shipowners themselves?—Quite so.

3536. Then with regard to the effect of getting better treatment from the owners or responsible persons always accompanying the cattle, is it possible in all cases that either the owner or a responsible person could be sent?—Decidedly not.

3537. It is only in exceptional cases of large lots, such as you send, that practically the owner or a responsible person can be afforded?—Decidedly so.

3538. Can you state the average time that it takes on the passage from Dublin to Glasgow?—I should say from 16 to 20 hours.

3539. Is it not often over 20 hours?—It is.

3540. Then with regard to water ballast, would you say that that is principally or specially needed in the case of screw steamers?—I would.

3541. Would you consider it necessary in all cases, with paddle steamers?—I would rather have a paddle steamer.

3542. I am not speaking now of the question of putting cattle in the lower hold, but especially on the question of water ballast. It is specially with regard to screw steamers that you would require water ballast, is it not?—I think any boat is improved in her sea-going capacity by water ballast.

3543. I suppose that you think that a screw steamer rolls more than a paddle steamer?—Yes. I would rather have a paddle steamer for carrying cattle.

3544. It is probably steadier than the screw?—Yes; the width makes it steadier.

3545. (*Mr. Watson.*) As to the question of insurance, you say you are compelled to sign a risk note; does

that apply to all the three routes that you go by?—We sign with the City of Dublin Steam Packet Company a form which is filled up. I cannot speak as to the wording of it, but I understand it to mean that we sign at owner's risk.

3546. But you say you are compelled to sign?—I did not mean that.

3547. That was the expression you used?—It was misapplied. It is compulsory in this way: unless we send them at the high rates we have no other rates.

3548. But in signing this you said it was because you wished to take the risk yourself?—We have two courses: one to insure, and one not to insure.

3549. What is the difference between insured and uninsured rates on cattle?—9d. per head on the City of Dublin Steam Packet Company's boats. 7s. 9d. is the freight at the insured rate and 7s. at the uninsured rate.

3550. Is that a reasonable difference or not?—Giving a personal opinion about the matter I should say if that walk ashore clause was left out it would be a very fair arrangement. I do not think that it is so fair with the walk ashore clause.

3551. Is there a walk ashore clause in each of those cases?—I think in every one.

3552. You believe that?—Yes.

3553. You do not know?—I know from experience that the company are not liable unless in a case of mortality.

3554. Have you ever tried that?—I have not, not being fond of law.

3555. You say you are not fond of law, but have you ever claimed in the case of injury only and been refused; have you ever shipped at company's risk?—I have nearly always shipped at my own risk.

3556. That is the reason I ask you, have you ever shipped at the company's risk?—Well, I might have on some occasions.

3557. You have not much experience of it, then?—Decidedly not. There is a question of where a beast of mine broke its leg going into a boat of the City of Dublin Steam Packet Company, and I got this beast taken out, and though at my own risk, I sent the beast to Mr. Peyton, of Dublin, and I got 15l. for it; the beast cost me 21l. 10s. I sent in an account of the difference to the Steam Packet Company, and they paid it to me.

3558. In the case of Glasgow, the insurance to Glasgow is a penny in the pound sterling?—I think that it is most unreasonably high.

3559. You think it is too much?—I do, with the treatment and the walk ashore clause.

3560. Your objection to the present system of insurance is the walk ashore clause?—Decidedly so.

3561. Then as regards injury, do you think the insurance should cover injuries visible or invisible?—Those should be ascertained by some competent person.

3562. And the insurance paid after the injury was discovered?—I should say so, it is very hard to draw the line where that might stop.

3563. That is the reason I ask?—There is a difficulty, I admit. Of course every privilege like that can be abused. I undertake to say, so far as I am concerned, that I think the general interests of the people would be served and their cattle better looked after, by the adoption of this system of insurance.

3564. You do not think that invisible injury should be paid for?—Anything invisible.

3565. I mean invisible at landing time, but for which compensation might be asked after the slaughtering?—I may say that a serious damage would be more or less visible, such as a broken rib.

3566. That would be visible damage?—I say that all injuries on the boats can be traced if the good is used.

3567. Are goads used in Dublin?—Well, they are but not as a general rule; sometimes an ordinary stick, is pared down like a pencil, and that is used as a goad.

3568. I mean a proper goad, with a flat end and a little spike, is that used?—They are not generally, they are not used on the same principle as in London; they are used here as a matter of compulsion, the drovers are compelled to have them.

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3569. You say you never could find a Government official or anyone else to make a complaint to, do you mean Government officials who would be ready to listen to anything from cattlemen and dealer men?—Yes, and the Dublin Packet Company as well. They are anxious to meet our views in the way of improvements, but they lack the power to do it.

3570. Is it the Government or the companies that you find fault with in that particular?—I find fault with both of them. We ask for a better service, and better accommodation, and nobody seems to pay any heed to us.

3571. Have you made your request to the companies on these points?—Yes, I have asked them to give us a gangway from the yard to the boats and those boarded sides, and they have granted them.

3572. They have not refused those?—They have always treated our demands with the greatest courtesy and attention.

3573. Then, do all the three companies treat your demands with the greatest courtesy and attention?—Decidedly so.

3574. (Mr. Field.) I want to know whether it is not a fact that our Dublin Cattle Association has not several times had these contract notes under considera-

tion, and they consider that the men in the steamship companies are contracting out of all liability?—Yes.

3575. With regard to the walk ashore clause, do you know of a case where a beast walked ashore and died shortly afterwards, and where there was no compensation given?—I never knew of any compensation in such a case. A good many of our cattle walk ashore at Glasgow, and die in the yard at Glasgow, and up at the market, and then they are sent to the slaughterhouse we can only get 2s. or 3s. for the skins or hides.

3576. (Chairman.) You mention a case in which you lost 40 cattle on board the "Olive" in November. We had a witness yesterday who referred to a case in which a number of cattle were lost in the month of September on the "Olive," was that your case or some other case?—I had not the date when I spoke of November. If it was in September that a large lot of cattle were smothered on the "Olive," that is the occasion I referred to.

3577. (Mr. P. Smith.) There were not two occasions?—The "Olive" was the case where the cattle were smothered, and the "General Gordon" was the case where the cattle were killed. My brother was on board the "General Gordon."

The witness withdrew.

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Mr. JOHN CASSIDY called and examined.

3578. (Chairman.) You are a large cattle dealer, residing at Ballyshannon, are you not?—Yes, I am.

3579. And last year 6,200 cattle passed through your hands, mostly stores, I believe?—Yes.

3580. You sell cattle all over Scotland?—All over Scotland.

3581. And you buy yourself, and your brother also assists you?—Yes.

3582. Of the 6,200 beasts dealt with last year you had ten killed on the voyage and eight died after landing?—Yes, before I got them disposed of.

3583. And you had fully 400 others which had to be sold at a loss of from 1*l.* to 5*l.* per head through being injured?—From 1*l.* to 5*l.* 15s. I had to give 15 guineas for them and I sold them at 12*l.* and at 10*l.* apiece.

3584. Had you many of those 400 that suffered at the higher rate of injury, more than 1*l.*?—All the 400 suffered injury and in consequence I had to sell them at that reduced price which I have stated.

3585. You consider that the loss from mortality is small as compared with the loss incurred by injury?—I consider it very small as compared with the loss from injury.

3586. You speak of loss incurred by injury from broken ribs, and hips, and legs, and bruises, and blindness?—Yes.

3587. Could you give us any idea of how many cases you meet with of these fractures and serious injuries?—I can state that broken horns is a thing that you can scarcely avoid even in ordinary good weather, in weather like this. I saw last week two or three cases of broken horns, and in bad weather I am quite sure that from one-third to one-fourth are severely injured.

3588. Are those injuries you speak of, then, principally broken ribs and hips?—Yes.

3589. How many cases of broken ribs pass through your hands?—I might safely put it down at from 100 to 150.

3590. One hundred and fifty cases of broken ribs?—Yes. I had one case where I sold a man 20 cattle, and he told me in the following week that 10 of them had their ribs broken; that was a case with fat cattle. In stores a man does not know for six months or longer, and he is not aware that these ribs are broken perhaps till he disposes of the animal, but it is sure to hinder the beast from thriving during the time that he has it, and this can only be ascertained after slaughter.

3591. You are the first witness who has specifically drawn attention to broken ribs, and you say they are broken frequently?—Certainly, broken ribs are a frequent occurrence.

3592. Is that in very bad weather?—It may occur in bad weather, or possibly ordinary weather, from some jerk or bad handling on board the ship.

3593. In that case in which you say you had 10 cattle with broken ribs, what season of the year was that?—In November last.

3594. Do you very often travel with your cattle?—I do.

3595. And have done so from various ports?—Yes, from 20 to 30 times a year. I travel from the port of Dublin to Glasgow, Derry to Glasgow, Belfast to Glasgow, and Belfast to Ardrossan, those are about the principal ports. As far as Sligo and the other ports are concerned, the voyage is longer, and I generally take the shortest way, as time will not allow me to take the long voyage sometimes.

3596. In the course of your journeys have you inspected the cattle?—I go through the cattle in my own interest to see how my cattle are suited and how they are getting on.

3597. You complain of insufficient ventilation as one of the worst things?—I consider that the greatest suffering arises from insufficient ventilation.

3598. You mention that blindness is one result of it?—Yes.

3599. How many cases of blindness had you last year?—I have seen it with lots of 100 to 250 cattle of my own where I have drawn 20 or 30 cattle which would be practically blind for three or four days; some might recover in three or four days, but they would be so blind that you would have to employ someone to draw them on a float to the station.

3600. In what season of the year was that?—That would be in the throng season when the boats are overcrowded.

3601. When is the throng season?—The throng season is from the 1st of September to the 1st of December.

3602. Have any of your customers complained that any of the store animals were permanently blind?—Yes, there are several cases of permanent blindness.

3603. You say that you yourself have been unable to remain for more than five or ten minutes in the hold?—Yes, I have seen some of my beasts that could not stand it from the heat and suffocation. I might remark that the greatest trouble arises when you come under the headlands. When you are out at sea there is more wind, but when you come under the headlands and in close foggy weather the suffering is a great deal more than it is at sea.

3604. You say that the sufferings of the animals from insufficient ventilation is shown by their sweating and other signs of discomfort, and it is greatly aggravated by their being taken on board several hours before sailing?—Yes.

3605. And you have seen five per cent. of the cattle discharged at Glasgow blind from ammonia, is that

so?—I put five per cent. down as the very smallest, I would go further than five per cent.

3606. Then you corroborate what other people have said about injuries done through slipping from want of proper foothold?—I do not know what other people have said. I have seen great injuries from slippiness. You will see from the statement that I made that when one beast falls down it knocks down the one next to him, and they all fall down. They are generally packed close in the throng seasons, when the boats have their full complement, and they have scarcely room to stand in the pen they are packed so close together.

3607. You repeat what other witnesses have said as to the injuries arising from steep stages or gangways and the beating of the animals with a stick. You say that you have seen boards rent and the cattle beaten with them?—I have seen a wide board rent in pieces three or four inches wide to beat beasts off the ship, and that has happened on more than one occasion. I have seen strong hoops pulled off barrels, and barrel staves used to force the beasts off.

3608. And you have often had experience, where as owner you have travelled with the cattle, where the cattle men would not pay any attention to your orders?—Any instructions I have asked them to carry out they have refused, on the ground that I had nothing to do with their employment. That refers more to the time of the stowing of cattle than when the cattle are at sea. The cattle men at sea look to get perhaps 3s. or 4s. at a time from the owners of the cattle, and they are paid by the company as well, and they try to carry out your instructions; but at the loading of the ships, where the men do not get any tips, they would not do anything at all for you.

3609. There is a very practical suggestion here that a great deal of unnecessary suffering is entailed upon the animals in consequence of the lots of the different owners being mixed up, and you suggest that they should be kept separate?—Yes.

3610. You mentioned that on the Drogheda Steamship Company they are kept separate, and they generally let off separately each owner's lot, so that they get away out of the shed to make room for the next lot, and so on. How is that carried out?—I say there is a better class of men. The sailings between Drogheda and Glasgow were only taken up for the first time lately, and they send a better class of men who keep every person's cattle separate on the voyage, and they let the cattle out to the last beast, and they are got out before another lot comes off the stage.

3611. Do they carry men purposely to look after the cattle?—They do, and their system of carrying is better.

3612. In what respect?—The boats are constructed as cattle boats, and they are more suitable for cattle.

3613. What do they charge?—5s. 9d. is the charge for store cattle from Drogheda to Glasgow.

3614. Is that at owner's risk?—Yes, at owner's risk. I was the only person that lost a beast of their carrying last year, and I made a claim for it, and they said they were not liable to pay, but as it was the only beast that had been lost between Drogheda and Liverpool and Drogheda and Glasgow, they would pay me.

3615. Is there any improvement in the ventilation in these boats?—The ventilation is carried on on the same system as in the other boats.

3616. Have you been down the hold?—I never travelled on the boats, but at Glasgow on the arrival I know that the cattle come off much cooler than from most of the other boats. I consider the ventilation of all of them not at all what it should be. I have made myself acquainted with the American boats, and it is quite different from what we have.

3617. Can you tell us what the system is on the American lines?—The system is that of those bell mouthed pipes that they shove round to whatever part the wind comes from, and they have wind bags to go down into the hatches.

3618. Have they any mechanical ventilation?—In a few of the boats they have mechanical ventilation, but it only stirs up the foul air, and does not send it out. There is nothing like a sucker to send it off, it keeps the foul air there, and I do not see that improves the matter one bit.

3619. There is another new point that you draw attention to, and that is that in the throng seasons it is

customary to send special boats when their ordinary boats are not sufficient to meet the traffic, and they go to sea without cargo or ballast, and the consequence is that they roll heavily?—Yes; I had a case of a loss of about 200l. last year, owing to a boat from Sligo to Glasgow carrying 300 beasts—about 130 of them were mine. Then 20 tons of flour were put into the boat as ballast. It had no cargo from Sligo to Glasgow, and as the result the cattle were in a most dreadful way, and they lost from 1l. to 5l. 15s. apiece.

3620. How long was the voyage?—That particular voyage took about 30 hours. I was out till 1 o'clock in Glasgow in the sheds. It would be 30 hours on that occasion, and it has been done in 18 or 19 hours by the same boat.

3621. Thirty hours in that case; you say that in consequence of those boats being insufficiently ballasted, they take the precaution, by way of adjusting their boat, to put the largest and heaviest cattle down below?—Yes, these are the most valuable; they are generally fat cattle, and they must get some stick beating, and the result of the stick beating will tell against the carcasses of the beasts when they are dressed.

3622. The animals in the hold suffer most, I suppose?—Under the present system they do. The deck is the safest place for the cattle; there is more ventilation.

3623. Confining yourself to this Sligo case, were your best and fattest beasts in the hold?—They were.

3624. Was that the worst part of the ship?—It was the worst part of the ship. I may say there were more than 20 similar cases during the season, but none were so disastrous to me as that. This was the "Briar," of the Laird line.

3625. Does this system of putting on extra boats hold good in all the ports?—In the season I call the throng season, from the 1st of September to December, there are more than 30 of them from Dublin to Glasgow, and there are similar cases, as far as the shipping of cattle without having sufficient ballast is concerned. My idea about the thing is that it is impossible for any boat to carry cattle safely without sufficient ballast to keep her in the water when carrying heavy deck loads of cattle.

3626. Do you go to the fairs in Ireland to buy cattle?—I have done so for 20 years.

3627. You might be able to give us some information about the journeys of cattle in Ireland before they arrive at a port. You might take an example of a market that is a long way from a port, and let us trace the beast up from that market; take the furthest market?—I had cattle brought from Ennistimon on the west coast of Ireland, county Clare, 10 days ago, and I had one killed. I will tell you how they were brought from start to finish. They were bought on the 26th of March.

3628. They were brought in from the farms round about. Did they get any food or water in the market?—No, not in the market.

3629. Then you bought them?—I bought them in the market, and left at 12 o'clock. They were fed in the morning, and railed into Ennis, a distance of 10 miles.

3630. Did they get any water at Ennis?—They had water at Ennis.

3631. How long would that be?—They were railed at 12 or a little after, and it would be about 3 o'clock at Ennis, and they would be kept there till 12 o'clock that night with plenty of hay and water; there was a stream of water in the fields.

3632. From thence they went on to where?—To Dublin *via* Athenry by a special train.

3633. How long were they?—They were in next morning about 10 or 11 o'clock, and they had from then to 5 o'clock in Dublin to be fed, and hayed, and watered. Veterinary inspection and shipping took place between 5 and 6 o'clock, and they arrived in Glasgow next day at 12 o'clock.

3634. In that case they would not starve more than 24 hours?—That is the longest point in Ireland to bring the cattle from.

3635. I am asking you not as to the longest point; we have had it stated that they have had some long fasts?—I have had longer fasts, I admit. I have had 36 hours' fast; but I do my best to avoid this.

3636. You, going with the cattle, can arrange that yourself?—Well, if we buy the cattle in the neighbour-

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hood of Dublin, within 10 or 20 miles, we ship them on board without food on the day of purchase when we know the passage to be only 16 hours.

3637. Supposing you ship them at Sligo?—I got them at Boyle, 20 miles from Sligo. In almost all cases we give hay before shipping at Sligo.

3638. And they would go without anything between Sligo and Glasgow, and that would be fully 40 hours?—It would be up to 40 hours without food by bad passage.

3639. When they get into Glasgow you see that they are fed?—Yes, but it is three miles from the landing place to the station to get a place for feeding them.

3640. What would you say about the amount of injury sustained by animals in transit in Ireland on the railways? Is there much of the mischief done on the railways?—I think there is certainly mischief on the railways in Ireland, arising from long shunting, for instance.

3641. We can only deal with that in order to enable us to eliminate from the injuries ultimately ascertained to have been inflicted upon the cattle what may have occurred in Ireland?—I have seen broken horns and injuries arising from being severely shaken in the truck, and I have seen beasts thrown down when the waggon was not sufficiently filled.

3642. The greater portion of the injury is done by the sea transit, is it not?—Seven-eighths of it.

3643. (Mr. Watson.) What ports do you ship from?—From Dublin. I have had a few shipments from Newry, also between Belfast and Ardrossan, and between Belfast and Glasgow. I ship from Derry, Sligo, Limerick, Cork, and Waterford.

3644. To what ports?—To Glasgow only.

3645. Then when you speak of shipments from Drogheda, you are referring to Drogheda and Glasgow only?—Certainly.

3646. Do they send special boats?—They send special boats.

3647. How do you find their special boats?—I find that I get all my cattle in better condition than off other boats.

3648. Do you think that their special boats are as good as their ordinary boats?—My own impression is that their boats have been constructed as cattle boats and not as cargo trading boats; they have no cargo or goods traffic.

3649. Were their special boats ballasted, or was it owing to their being good boats without the ballast?—I cannot say as to ballast, the cattle came off well.

3650. Were these special boats as good as the others?—Well, they only lost one beast all the year, and the cattle came off in better condition than off other boats.

3651. Are they screw boats?—They are paddle boats I consider paddle boats much superior to the screw boats as cattle carrying boats.

3652. (Mr. Booth.) The Chairman was asking you about the feeding and watering of the cattle on the journey; what is the system you adopt when you want beasts to be fed and watered in Dublin, either at the North or the South Wall; what have you to do?—We keep a man, and so do most other persons who trade to any extent, who looks after the cattle; and we have certain lairages that we send them to.

3653. Are they fed in the steamboat companies' yards?—No; it would be a great thing if they were.

3654. You require to have them fed and watered at the special lairages?—Yes.

3655. If other persons who are not in business in so large a way want their beasts fed and watered in Dublin, they must go necessarily to the cattle yards in Dublin to be fed and watered?—They can if they have a few hours to spare; if they are in sufficient time for being fed before shipment.

3656. Who is expected to supply the cattle with food and water?—The owner always.

3657. To whom does he apply?—There are several licensed lairages.

3658. Supposing the beasts are consigned through and are sent from the railway station to the Steamboat Company to be shipped, can the owner practically get his beasts fed and watered?—That is a matter of

through booking, and I have not much knowledge of it. In fact, I have not much knowledge of the English trade, and I cannot speak about that; but I know that they have been fed from the parties who look after them, by the through booking system.

3659. With regard to broken horns and broken ribs, which you say is very common in the case of beasts carried by sea, does that involve a great deal of crushing and cruelty and suffering to the beasts?—Most undoubtedly; they will have to be for three months as store cattle before they get right; and that is one of the reasons why the Scotch farmers prefer the Canadian cattle.

3660. (Mr. Cullen.) You say you do business from Derry to Glasgow?—Yes.

3661. Are the cattle generally carried better from Derry to Glasgow than from the other ports?—I place Belfast first.

3662. I am only talking about Derry?—It is better than Dublin or Sligo or the southern ports, Limerick, or Cork or Waterford—the sea passage is shorter.

3663. And they are carried better from that port to Glasgow?—Somewhat better—not a great deal; there have been big sufferings in cattle coming from there. The only difference is that the vessels are a shorter time at sea—the system is the same.

3664. I assume that those cattle that were found blinded were sound and not blind when they were shipped?—Most undoubtedly they were free from blindness when they were shipped.

3665. You mentioned that you had sent cattle from Drogheda to Glasgow in paddle-wheel steamers, I ask you have you had any other experience of sailing, or sending your cattle by paddle-wheel steamers?—I have; between Dublin and Glasgow there were paddle steamers, and they have one in the service yet, and even on the Laird line they had some paddle boats; there was another paddle boat from Derry, but that is some time since. In all cases the paddle steamers carry better than the screw steamers. I had four different cases of paddle steamers which give more satisfaction than screws.

3666. Putting them all together you prefer paddle steamers, and the best of the lot were the Drogheda steamers?—The cattle that were carried safest were cattle coming to Glasgow by the Drogheda steamers.

3667. And you consider them the best boats?—I do.

3668. (Mr. Field.) You are from Ballyshannon, in Ireland?—I am.

3669. And you live there?—I live there.

3670. There seems to be some misconception in the minds of the Committee that you are a Scotch witness, but you simply do business in Scotland?—I am doing business there, and I was in a market there the day before I came here.

3671. You are a member of the Irish Cattle Dealers and Stock Owners' Association?—Yes.

3672. And you travel very often with the cattle?—Yes.

3673. In travelling with the cattle, do you find responsible officers in charge to see how the cattle are treated aboard ship?—No.

3674. Do you ever see anyone representing the Government on board?—No.

3675. Do you ever see anyone representing the shipping company?—The master of the ship and all are courteous; but if you ask them to get anything done or you want anything done in connexion with the cattle, they cannot do it for you.

3676. Is it within your experience in travelling with cattle that you have ever found anybody on the ship either representing the Government or the shipping company who could get any necessary matter that required remedying done for you?—Never in my experience. I have often asked and never succeeded.

3677. May I take it as your opinion—and this is the kernel and the crux of the whole business—that there seems to be a lapse of any authority to obtain proper treatment of the cattle during the sea voyages between Ireland and Scotland?—I consider there is no proper authority.

3678. Is anyone responsible for looking after the treatment of cattle on the sea voyage?—No one, that is my evidence, except the bullock men.

3679. Except the bullock men, who are employed by the companies, there is no one else to do anything?—Quite so.

3680. As a rule, do they carry out their duties?—I have seen men who have been working six or eight hours loading cargo, and then selected for eight or ten hours to look after the cattle on board; the men were asleep before they were two hours at sea, and they were suffering from exhaustion and drink; and if I did not look after my cattle myself, no one would.

3681. Practically, there was nobody to look after the cattle?—I consider the class of men on board the Sligo, and Waterford, and Limerick boats have quite sufficient demands upon their time as sailors, without looking after the cattle.

3682. You think that the sailors ought to be engaged in looking after the ship?—They have enough to do in looking after the ship; in bad weather ship and cattle needs attention at the same time.

3683. You have had some experience about the "Duke of Argyll"?—I have.

3684. Will you tell us shortly what it was?—A few years ago since I lost eight, and a friend of mine lost fourteen. There were about six of us lost 80, as well as I remember. On the "General Gordon" there were 140 killed.

3685. What do you attribute that to?—Insufficient ballast in the case of the "Argyll"; she took a list when she went to sea, and she was just on one wheel for an hour and a half, and the pen partitions gave way and the beasts went to one side.

3686. There was no water ballast?—Not on any of the boats.

3687. Is anyone responsible appointed by the Board of Trade, or by the Government, or by the shipping companies themselves, to see that the vessels are properly trimmed before they start on a voyage?—I am sure there is no one appointed.

3688. Would you be prepared as a non-seafaring man, but with a knowledge of vessels, to say that the "Duke of Argyll" was not properly trimmed?—I heard it mooted amongst the crew too.

3689. You were on board?—She gave a lurch and never righted herself.

3690. Was that dangerous both to the cattle and the crew?—It was a danger to the lives of the people on board.

3691. Are you of opinion that the Board of Trade ought to have an officer appointed to see that those cattle vessels are properly trimmed before they go to sea?—I would go the length of making that suggestion, and also that prosecutions should be instituted for under-loading the same as overloading steamers, for they are just as bad.

3692. You think the ventilation is defective?—Yes.

3693. And that the footholds are not satisfactory?—There is practically no foothold.

3694. Do you think the different owners' lots ought to be loaded and unloaded together?—I think they should be separate.

3695. Do you approve of hospital pens?—Yes.

3696. Are you in favour of tying cattle?—Yes, of over two years old. I am also in favour of alley-ways between pens, as it is utterly impossible for cattlemen to work without serious injury without alley-ways.

3697. It is your deliberate opinion that the whole system of carrying cattle by sea from Ireland to England and Scotland wants to be remodelled?—Most undoubtedly.

3698. You want more space between decks, and more space for the cattle, and you want them treated in a different manner?—We want better ventilation, better footholds and more space between the pens for the men to look after the cattle, and tying up with head ropes; these are a few of the most essential elements.

3699. With regard to the railway transit, do you think there ought to be pens in all these cattle banks in Ireland as there are in England?—I think it would lessen the abuse cattle get.

3700. And there would be less shaking on the railways with proper couplings?—On the Scotch railways they have screw couplings which cause the train to go off easily and in the other case there is a continual thud, thud, with the long couplings.

3701. Are you in favour of compulsory insurance that would enable the bridging over of the difficulty between the ship owners and the cattle owners?—I would be in favour of a better system.

3702. Are you aware that the Irish Cattle Dealers and Stock Owners' Association have adopted that principle subject to adjustment of the details?—Yes.

3703. Are you aware that this Association has been urging these things on some of the principal ship owning companies in Dublin?—I am aware of that.

3704. And that negotiations are on foot?—I am aware of all that.

3705. As the net result of your evidence, do you think that something ought to be done to establish the responsibility of the shipowners and the railway companies in regard to the damages and injuries sustained by live stock generally?—Most undoubtedly. There is no possible way of attaching the responsibility at present. If they kill all the stock you must stand by the loss, because there are no possible means of recovery.

3706. When you sign these consignor's notes, unless there are insurance rates, the railway and steamship companies contract themselves out?—Yes, but we have no alternative.

3707. How is it you have no alternative?—They contract themselves out of everything; we must get our stock away, we have no chance against the monopoly; we have no other way of getting our stock away, and we must do what they demand of us. If we could go to another company they would, I suppose, give us better terms.

3708. Is it within your experience and knowledge that the shipping companies have practically a ring, just the same as the railway companies have the Clearing House in respect to the management of this whole matter in regard to not paying men for losses?—I am well aware of that, because there were one or two cases in which the result was a compromise, and all the companies charged the same afterwards. I was informed through some of the officials of the companies that there was an arrangement between them for a certain number of years. I could give the names if necessary.

3709. It is better not. You hold that the railway companies have a monopoly chartered by the State, and the shipowners have a ring, and between the ring and the monopoly it simply comes to this: that men are obliged to use the monopoly for the transmission of cattle, and the ring for the shipment of cattle, and they are practically at the mercy of these big corporations?—We are certainly at their mercy.

3710. Are you of opinion that the law ought to step in to protect the public welfare in such a case?—Most undoubtedly, as every reasonable person would be.

3711. You think it ought to be the duty of this Committee to get the Legislature to do something in that respect. Is it your deliberate conviction that the Irish cattle are not treated as well as the States or Canadian cattle?—I am positive they are not.

3712. Does the depreciation of the cattle arise after the transit by rail and sea?—Yes, because Irish cattle put in stalls at home begin to thrive at once, and they are three or four weeks in Scotland before there is any sign of improvement.

3713. (Mr. P. Smith.) We have heard from one or two witnesses that they are in favour of compulsory insurance at a moderate rate which would cover not only death but injury, what have you to say with regard to that?—It would be a great protection to our trade to insure us from big losses. The Clyde people have such an insurance, and it is certainly a great protection. The Clyde Shipping Company go to Waterford, Cork, and Limerick.

3714. Do you ship much by them?—In the seasons, from the present time to the month of July I am shipping.

3715. Do you use that rate?—It is compulsory on us, they will not carry you without it, whether you like it or not.

3716. They have only one rate?—I may say that they have two rates; the compulsory insurance rate, which means their ordinary freight charges, and protects us against mortality, and if the beast is injured to such an extent as to be slung on shore, we get paid for that. In addition to that they give us a rate of

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which we may avail ourselves against injury, which will cover a broken limb or a broken rib, or anything of that description; one is compulsory, the other is optional.

3717. You are obliged to accept the mortality rate?—Yes.

3718. And it is optional whether you take the injury rate?—It is optional.

3719. It is only in bad weather that anyone takes it?—Yes.

3720. Of course with this precaution, with this additional rate for insurance it would amount to an additional freight?—Yes.

3721. Are you ready to pay that?—As far as I am concerned I could pay 15 or 20 per cent. if I got my cattle carried as I consider they should be, and have a great deal more profit at the end of the year.

3722. What rate is that?—Well from Derry to Belfast it is very cheap, about 4s. is the ordinary charge from Derry or Belfast. From Dublin the same thing would cost about 6s. 6d.; from Limerick, or Waterford, or Cork, it would be about 10s.

3723. Supposing this additional precaution cost another 5s. per head, would you take it; would you be ready to pay 50 per cent. more?—That would be a great deal, 50 per cent. looks a big thing in a year's trading.

3724. We had evidence from a great many fleshers and dealers in Scotland, that they thought the average Irish beast lost from 1l. to 30s. in value in consequence of the journey?—I believe that. I was in conversation with Mr. Cooper, in the meat market in Glasgow; he is the biggest handler of Irish fat cattle, and he said that he would put it down at fully 30s.

3725. And you think that reasonable?—If cattle were carried so as to be worth 30s. more, I would be satisfied to pay higher freight.

3726. If you could get 1l. or 30s. more for fat beasts, you would be willing to pay 5s. more to the steamship companies?—Not 5s. I do not consider that the outlay of the steamboat companies would require such a price as

The witness withdrew.

Mr. J. Dwyer.

Mr. JOSEPH DWYER called and examined.

3733. (Chairman.) You come from Roscrea, County Tipperary, do you not?—I do.

3734. And you are a member of the Irish Cattle Trade and Stock Owners' Association?—Yes.

3735. You have been 20 years in the trade, I believe?—Yes.

3736. You have heard the evidence given by the last witness, and I think you have also read the summary of the evidence that was given this morning by Mr. O'Connor?—Yes.

3737. And generally you corroborate and agree with that gentleman?—In some cases I do.

3738. You and your brothers ship from 7,000 to 10,000 cattle a year; chiefly store cattle, from Dublin, Waterford, Cork, and Limerick, to Glasgow?—Yes.

3739. The passage lasts, according to the different routes, from 16 to 48 hours, I believe?—Yes.

3740. Where does the 48 hours come in?—Limerick.

3741. Is there any arrangement for watering the cattle on board of those Limerick boats?—Yes, we are told that they are watered and fed.

3742. Have you been on board the ships?—No, I never went that route; it is too long.

3743. You have not been on board; have you seen them arrive?—I have.

3744. Are there any alley-ways between the pens in that boat?—There is a passage in the Clyde boats, in the centre of the boat. I am not able to give the nautical terms—you can pass from one end to the other. Here are the pens *here* (describing), and you can pass down between them; it is about 18 inches wide.

3745. You mention in your proof that they say that on this long route the animals are fed and watered?—Yes.

3746. It is necessary that they should be fed and watered, and that there should be a way of getting at them. I ask you whether there was any special

that fixed. I think that the alterations would not cost so much as to require that amount being put on the freight. If it pays them under the present circumstances, then I think 10 to 15 or 20 per cent. should pay them for the alterations.

3727. (Chairman.) We had evidence given yesterday to the effect that the cattle suffered more in their journey to Glasgow and to Liverpool than to any other ports; have you any experience of other ports?—I travelled with stock a few times to other ports. My belief is the different routes to Glasgow are the worst, from the west coast of Ireland particularly.

3728. You stated that in this Waterford trade in the winter it is customary to insure not only against the cattle that cannot walk out of the vessel, but against injuries?—Yes.

3729. How is that done; you said that cattle may have their ribs broken?—The Clyde Company are the insurance agents themselves; in the case of beasts, if dead, they send them to us to make the best use we can of them, or take charge of them, and we give them the salvage.

3730. Take a case of injury?—If I see cattle injured to any degree, I draw attention to the cattle injured as soon as possible after.

3731. Take the case that you mentioned, where a store cattle might have a rib injured, and it is sold, and the thing is never detected, or at any rate might not be detected until after the cattle left?—A few cases of that kind occurred with me too. I must say that they are decent people with me, and the manager of a steamboat company would take my word with reference to any statement of that nature. For instance, two weeks after the cattle leaving the ship, I found that of a lot of cattle that I had insured at a high rate, some had their limbs broken and were badly bruised, and had to be sold at a big reduction in consequence. Well, the manager had confidence in me, and he paid me.

3732. What is the charge extra for this special insurance?—3s. on the declared 100l. value.

arrangement?—Not that I know of. There is a passage down at the end of the pens.

3747. You say in your proof that your cattle arrive, in most cases, in bad condition?—Yes.

3748. You consider that there are not a sufficient number of cattlemen on board those vessels that carry cattle, and that in the longer passages there are no cattlemen?—We require more cattlemen from Dublin to Glasgow. There are no special cattle men on the Clyde boats from Cork, Waterford, or Limerick. The crew are supposed to look after them.

3749. You also mention an occasion when 162 of your cattle from Limerick were 11 days on board ship?—Yes.

3750. When was that?—The last Friday in October, 1887.

3751. What was the cause of this extraordinary delay?—A storm, I think. They had to go into Kilrush, and then they got into Galway, and she went into some other port, I think.

3752. Only two of your cattle arrived dead?—Yes.

3753. And the rest were in a horrible condition?—They were.

3754. And you say that the delay was aggravated by the fact that the captain or owners of the ship refused to deliver them unless you signed a paper that the goods arrived in good condition, which you refused to do?—Yes.

3755. And they kept the cattle in the landing sheds about 12 hours to force you to sign?—Yes.

3756. Who refused the delivery?—The clerk in charge.

3757. Was he a servant of the company?—Yes, a servant of the company.

3758. Will you kindly give us the details of that affair?—It was on the last Friday in October 1887; that was the Munster fair.

3759. Is that the date of arrival, or the date of departure?—That is the shipping of them; the last Friday in October, and the ship was from Limerick.

3760. Then it was 11 days later than that that they arrived in Glasgow?—The following Monday morning week.

3761. It is evident that these beasts must have been fed and watered, from the fact that only two of them died?—They were; there was hay sent down to them on board ship while lying in Kilrush. My brother said that they got very bad treatment. I have only his information for it.

3762. Were there many cattle on board ship; you said 162, were there many others?—Yes, there were nearly 400 on board.

3763. Did the other cattle suffer much?—They all nearly suffered equally.

3764. Have you any idea how many arrived dead?—I cannot say; I was too glad to get away.

3765. You had a cattleman of your own with them on that occasion?—Yes.

3766. He had a complaint against the company, too?—Yes.

3767. How are the men generally accommodated?—On the Dublin and Glasgow boats any of our men are accommodated with the sailors or firemen. They have free passes, and the owners have free passes.

3768. You want your men to stay up for accidents amongst the cattle?—I do. I should like to say that on the Dublin and Glasgow route they send bullock men with the cattle, but I do not think they send a sufficient number.

3769. Is that when you send your own man?—I never did, only that once.

3770. Do you say that on several occasions your cattle have been delivered in very bad condition?—Yes.

3771. What sort of injuries have you seen?—The joints of tails all broken.

3772. That is one point; have you many cases in which cattle have had the joints of their tails broken?—Very few times, because I cannot see the whole of them.

3773. How many; take a week?—You might get from 10 to 20 per cent with their tails broken, and their eyes beaten, and their horns off.

3774. Is that tail twisting done to get them up?—Yes, to get them up from under the others.

3775. And you put it as high as 10 or 20 per cent. in a bad lot?—Yes, 20 in a bad lot, or more.

3776. And that at all seasons, or only in the stormy seasons?—You may have 10 for good fair weather, and 20, or more, for bad weather.

3777. Twenty per cent. have broken tails, that would be?—Yes; that is the Limerick route; you are speaking of the Limerick route still.

3778. Well, then, as to the other routes, what do you say?—Well, Cork is next for broken tails, and injured eyes, and broken horns, and we have a great many bruised, and with broken ribs.

3779. A great many broken ribs?—Not a great many; some.

3780. You have heard what the last witness said about broken limbs?—Yes.

3781. Have you had experience of broken limbs?—One or two with broken limbs; I buy from the calf up to the big bullock.

3782. We have heard about broken tails; have you any of them in Dublin port?—Frequently.

3783. Or in Belfast?—I know nothing about any port except Limerick.

3784. And Waterford?—Well, that is fair with regard to broken tails.

3785. Let us take the blindness. You mentioned that Limerick was worst for blindness, too?—I cannot say exactly blindness, but they will be very much beaten about the head and eyes; they all have their eyes swollen.

3786. The other witness spoke of ammonia blindness? In nearly all the vessels you have that. We sometimes have that.

3787. Can you remember any time when you have had a number of cattle consigned to you, or in your hands, that were blind?—I do not go constantly across; may be once or twice a month.

3788. But you do not remember?—I have often cases.

3789. But you have never heard customers complaining, have you?—My brother is generally the salesman. We have cases constantly occurring in Scotland.

3790. But you know nothing about it?—I say nothing except of my own knowledge.

3791. Mr. Cassidy talked about broken hips caused by cattle falling down?—We have had them off and on.

3792. Could you tell me, roughly, how many cattle you have had killed out of the seven to ten thousand that you shipped last year?—On the Dublin routes, fortunately, I had only two.

3793. And what about the other routes?—I cannot say that, because all our cattle would be insured.

3794. Well, by the Dublin route, out of how many did you lose two?—From six to seven thousand during the twelve months.

3795. And you had only two beasts lost by the Dublin route?—That is all.

3796. At what season of the year was that?—It was in October, and it was a bad night.

3797. Do you ship at your own risk?—From Dublin I ship at my own risk.

3798. And therefore you had to bear the loss?—I had.

3799. You think that the most important recommendation is to have more space and better ventilation?—Yes, and to have the holds where the cattle are better lighted.

3800. That is in order to enable the men to see what they are doing?—A beast will have more courage with lights than when in the dark.

3801. Then you think that some official should enforce regulations for the better accommodation for loading and unloading and sorting cattle?—Yes.

3802. The last witness gave a practical suggestion that the lots of cattle belonging to each owner should be kept separate and discharged separately; is that practical?—It would be a great deal better for all parties if that were so.

3803. Would it be practical, could it be easily done?—I think more so than on the Glasgow boats. I beg your pardon, I wish to explain for a moment. I find even there you get the first beast out, and may be you get another with the last beast, and it could be better done. As far as possibly practicable they should be kept together.

3804. It would save a lot of beating, would it not?—Yes, and sometimes there is a calf and a big bullock being driven out of one gangway. I am speaking of nothing else but the Glasgow boats.

3805. (Mr. P. Smith.) What sized lots of cattle do you generally send over?—I send over may be three waggons, five waggons, or from 12 up to 150, and in one case I sent as many as 194 in one lot, on the Limerick boat; that was in October 1892.

3806. When you are sending over a big lot, you do not send anyone with them to look after them?—No.

3807. Why not?—Do you mean from Dublin?

3808. Yes?—I am not supposed to have bullock men.

3809. But from the other ports what do you do?—The crew is supposed to do that.

3810. But would not they be better looked after by your own men?—It is not very easy to get this class of men. It costs me a big lot of money already.

3811. But if the beasts suffer as much as you say they do, would not it pay you to look after them a little?—It would.

3812. But people do not send cattlemen?—No.

3813. It is not the habit to do so?—It is not the habit when the shipping company have men who are supposed to look after them and feed them.

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Mr. J. Dwyer. 3814. You find the beasts turned out hurt, and you do not send anyone to try and look after them?—It is not my practice. I only did it on one occasion.

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3815. Is that the practice of other people, are they doing the same as you?—Quite so.

3816. Have you ever represented to the companies how the beasts are hurt?—We always have a bit of a jaw with them about the beasts being hurt.

3817. And if you get more space, better ventilation, more room, more light and all that, of course you would have to pay more?—It would only be reasonable to do so.

3818. Would you be ready to pay more?—Yes.

3819. How much?—If we had a shilling a head more on all, that would do.

3820. It might cost a great deal more?—One shilling a head would come to a big thing.

3821. About the cattle as they come over; how long have they to do without food? Do you go to any particular part of Ireland, for instance?—The whole south of Ireland. I do Tipperary, Limerick, some part of Clare, Waterford, Cork, and Kilkenny, and a little of Queen's County.

3822. Take a big market in Tipperary?—Well, Templemore.

3823. How long would it be likely that the beasts would take from the farm to the fair?—Well, cattle who are four or five miles from the fair would be walked in early to the fair. If you get them from a distance around they will stop that night at the fair, and we buy them and send them on to the rails.

3824. Will they get food or water while at the fair?—No.

3825. Are there proper pens at Templemore to stand in?—No.

3826. And they are kept in bunches with sticks, I suppose?—Yes, in the streets.

3827. And if they are bought and go to the station, do they get any food?—None.

3828. Are there any pens on the landing banks in which to keep them before they go into the trucks?—There are five or six middling fair—the best in Ireland are on the Great Southern Railway system.

3829. You mean from Templemore to Dublin?—Yes.

3830. Are they long in the train?—Five hours, it may be, and four hours, and from that up to ten hours. It depends upon the number of the intermediate waggons on the special.

3831. When they get to Dublin, you have to take them down to the quay?—To the yards.

3832. And there do they get food and water?—Yes, they are fed there. I send all my cattle to one yard.

3833. Have they time to get food and water before going to the boat?—That depends upon the time that they arrive. I am talking of fair times, the few fairs that you can make a bit out of.

3834. Then generally they have to go without food or water?—Yes, or stop a night over.

3835. Where?—In these sheds, in the feeding sheds in Dublin.

3836. If they stop a night, do they get food and water?—Yes, as much as they want.

3837. And then it will be the next morning that they get into the boat?—They will not get anything until 6 o'clock the next day.

3838. And how long does the vessel take to go to Glasgow?—If they are in any way thronged, perhaps they will be in the pens by 3 o'clock, and they may not be loaded till between 5 and 6 o'clock.

3839. And the boat starts about 8 o'clock?—From 6 to 7 o'clock.

3840. And you get into Glasgow next morning?—We are there about 12, or two or three o'clock; sometimes she is in at 11 o'clock.

3841. And then you get them from the boat. We have heard a good deal about landing at the Broomielaw?—At Sighthill or at the yards.

3842. Do they get anything to eat and drink at Sighthill?—The first thing we do is to let them eat. We give them a little hay and about an hour afterwards we let them have water. We do not like to give them water

with the heat that they are in, until they get a bit of hay and then we let them be for an hour, when they begin to get cool.

3843. You are afraid that they would drink too much?—They would.

3844. What is the longest time that you find beasts going without water?—20 hours.

3845. They sometimes have to do without it for 20 hours?—About 16 hours.

3846. When they are in the boats?—Yes.

3847. (*Mr. Field.*) You come from Roscrea?—Yes.

3848. You are a member of of the Irish Cattle Association?—Yes.

3849. As to the Limerick route, is it your opinion that the mode of transit on that route is inferior to that of Dublin—it takes 48 hours. The cattle go in a worse condition from Dublin to Glasgow, do they not?—Of course.

3850. Are you aware that they feed and water the cattle on that Limerick route?—They do, according to my man.

3851. Do you see any reason why the feeding of cattle could not be accomplished from Dublin to Glasgow the same as from Limerick to Glasgow?—I cannot say that; I am not prepared to say anything of that.

3852. As a practical man, can you see any reason why a system adopted by one route could not be adopted by another?—I cannot say anything about ships at all.

3853. You had some cattle that were out 11 days?—Yes.

3854. And you lost a certain number of these cattle?—Yes.

3855. Are you prepared to verify the statement that you made that they refused delivery of those cattle unless you signed a document stating that the cattle were in good condition?—Yes.

3856. Were you on the ground at that time?—I was.

3857. Then you can give your personal observations upon it. From your own personal observations would you be able to state to this Committee that the clerk or the official of the company refused to give you delivery of the cattle unless you spoke to their being in good condition, and that you knew that they were in good condition?—Yes.

3858. Your statement is that he obliged you to make the false declaration to shield that company?—He wanted me to say that the cattle were in good condition, which I refused to do.

3859. That would have been a false statement?—I could not conscientiously do it.

3860. But you refused?—I did not sign it.

3861. You got the cattle?—I did, 12 hours afterwards.

3862. How much money did you lose by them?—I did lose a lump, but they met us afterwards.

3863. Did they recoup you afterwards?—After some time, we were pressing a bit of law on them, the manager came to us, being a customer of his, and paid us on the basis of 25s. per head for big cattle, that is, big store bullocks and fat bullocks, and for yearlings and calves they allowed 12s. 6d.; and we thought it better to accept that than to go to law; we were afraid of that.

3864. Has it been your experience when you went to law?—I never went to law for a beast; I avoid it.

3865. Have you known anyone that went to law that was successful in beating these companies?—No.

3866. Were they brought to the House of Lords?—On one occasion they were brought there.

3867. Have you ever known of a bankrupt going into law with these great companies?—No; I have known a case of the railway companies taking the case to the Court of Appeal, and then to the House of Lords, and the man had to pay 180% for costs, and I was afraid of that.

3868. Did you mention this to show how difficult it is to get any redress?—We can get no redress from the railway companies.

3869. Is it your deliberate opinion that you can get no redress against a carrying company, either by sea or land?—That is so.

3870. That is your deliberate opinion?—That is my belief.

3871. Do you think that the law ought to provide for cattle dealers, who are taxpayers, the same protection as for everybody else in the community?—I think it is only fair play.

3872. But you have not got it?—No.

3873. You lost only two beasts on the route from Dublin to Glasgow?—Yes.

3874. Have you any reason to believe that that mortality is exceptional?—I could not say much this year.

3875. Is it your experience that there is any responsible official (and this in my opinion is a point which wants to be brought out particularly) on the sea voyage between Ireland and Scotland, to point out the defects that exist, or to whom a cattle owner could appeal for anything that occurs during the voyage; have you any man that represents the Government, the shipping company, or the Board of Trade?—No, I have never seen one.

3876. Is there a man that you could appeal to on your side of the Channel or on the other side of the Channel?—Not that I know of.

3877. So that your evidence is that, as a rule, practically during the sea voyage there is no one responsible, and the whole thing is left in the hands of the shipping companies?—It is left in the hands of the shipping companies and the bullock men.

3878. The bullock men are supposed to be the intelligent representatives of the shipping company?—Yes.

3879. Do you think that the ventilation requires improvement on these ships?—Yes.

3880. You want more space?—Yes.

3881. And you want electric light?—Whatever light so that it is better than the present.

3882. Because there is an absence of light at the present time; and you think that the loading and unloading could be improved?—Yes, I think that we should have covered sheds, both at Glasgow and Dublin, and some racks to feed them.

3883. I think Mr. Parker Smith seemed to make capital out of the point that cattle owners do not send men to watch the animals during the voyage. Is it your experience that even if you sent men they could do any good?—If you could send only one man he would be—

3884. But would he be allowed?—He would not be allowed from Limerick, if he asked them they would very nearly run him in.

3885. Your evidence is that cattle traders do not, as a rule, send men to mind their cattle because they would not be allowed to interfere with the management of them?—So far as my man is concerned he would not be allowed to interfere.

3886. It is simply a loss of time and money for cattlemen to send their representatives on board?—Yes, so far as the man told me.

3887. Do you know, as a matter of fact, that the free passes to the drovers on the railways are stopped?—I am aware of that.

3888. And that helps to stop the cattlemen?—Materially.

3889. Because long ago, when the drovers got free passes, they were in a position to get to the ports at less expense, and it is a very serious item, is it not?—It costs me 1l. from Limerick to Dublin, and that is for his keep and railway fare.

3890. In your experience you generally get the cattle fed before they start?—Always.

3891. Because it is your interest to make the cattle look well?—My interest is to feed them whenever I get a chance.

3892. And before the cattle go to a fair they are generally stuffed and crammed in order to get them to look well?—The seller will try to have them as well as he can.

3893. As to compulsory insurance, what do you say?—I would not have coercion from any side. We have got enough of it.

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3894. If this insurance was introduced to bridge over the difficulties that exist between carriers of cattle and the men who send them, would it not do good?—I think it would.

3895. You were present at the meeting of the Cattle Traders' Association when I was in the chair, when this principle was gone into?—Yes.

3896. But not on matters of detail?—Not on matters of detail. My proposition was the declared value.

3897. (*Mr. Booth.*) You were saying that these cattle that you buy, you make an arrangement for them when you send them down for shipment, for feeding and watering them at Dublin?—I have a man there who is paid so much per head to unload and ship my cattle.

3898. That is because you are accustomed to buy cattle and therefore you have cattle there very frequently?—Yes.

3899. Have you any experience of consigning cattle from Ireland to England and Scotland for sale?—That is through booking, you mean.

3900. Yes?—We do nothing of that kind.

3901. You have no experience of that?—None.

3902. Do you think that cattle sent in that way are supplied with food and water? For instance, a grazier sends his cattle to somewhere in England or Scotland, can he get his cattle fed and watered as easily in Dublin as you can?—Yes.

3903. Where?—There are yards on landing at the North Wall, and, so far as water is concerned, there is plenty of it in the ship yards.

3904. Practically, do you think they get water?—The whole of them if they like to get it.

3905. Do they get the opportunity?—There are troughs in all the examining pens.

3906. Do they all go into the pens?—They have to go into the pens to be inspected by the veterinary department.

3907. Do you think the cattle get water?—Yes.

3908. That is not in accordance with other witnesses' evidence?—They must get water where they are examined by the Veterinary Department.

3909. With regard to that Limerick line, what line of steamers is that?—The Clyde Shipping Company.

3910. Do they run to any other port?—I do not know anything about the Glasgow business.

3911. This is on the Clyde Shipping Company's line?—On the Clyde Shipping Company's line.

3912. (*Mr. Watson.*) You say that they get water in all pens in Dublin?—In all the shipping yards they can get water.

3913. What does your man do?—He acts for myself, as my agent.

3914. How do you pay him?—So much per head, 3d. per head.

3915. What does he do for the cattle?—He sees them fed.

3916. That is a separate account?—Yes.

3917. Does he see them down to the ship?—Yes, and he ties them up.

3918. And that is included in the 3d. per head?—That is included.

3919. In the case you spoke of, where there was such a heavy loss in going from Limerick to Glasgow, do you know the name of the ship?—I think it was the "Arranmore."

3920. Were they sent at owners' risk?—The Clyde Shipping Company will not have anything without being insured; it is compulsory.

3921. It is included?—Yes, at the rate of 13s. 4d.

3922. How did any question arise about the payment if they were insured?—The payment for the dead ones.

3923. You said that they wanted to get a note from you that they were in good order?—That they arrived in good condition.

3924. Why should they, if they arrived in good condition, it seems very unreasonable?—They fought me for 12 hours.

3925. You are quite sure that that was it?—I was there, and I went to the manager, Professor McCall,

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who was taking a walk through the cattle, and I told him, and about an hour afterwards they were let free.

3926. But you say afterwards "they settled with us"?—Yes, we were going to take the law, but we were afraid.

3927. You thought you had a bad case?—We thought of the big company and the risk.

3928. But you carry 7,000 or 8,000 cattle a year, have you much loss?—We never think of the ones killed on the Clyde Shipping Company's boats, because if any of them are killed they are paid for.

3929. You do not bear that loss?—No.

3930. You said in answer to Mr. Parker Smith that 1s. per head would do a good deal to cover everything in the way of cost to the shipping companies?—I take 1s. as fair.

3931. But if you get 30s. less for the Irish cattle, what then?—I said 20s. or 30s.

3932. That is a point in which you do not agree with the previous witness; he said that the loss was 20s. to 30s. per head; do you agree with him?—So far as fat cattle are concerned, I might, but if 1s. per head were put on the charge for freight for cattle, that would do.

3933. What do you consider your loss per head averages?—My loss; how can I get on with a loss?

3934. Each witness has described the loss of value on Irish cattle as being from 20s. to 30s. It is not a loss in trade, or it would be as you say, you would not be able to go on?—I will explain. I used to buy fat cattle as well as stores, and I had to get off it. The butchers always jawed me. They said, "Your beef is good enough, but there are too many bruises on them, and especially the best part of the beef." They were dotted all over the lines of the good part of the beef.

3935. But that does not arise in your trade?—We cannot see it.

3936. As regards the tails that are broken, does that refer to principal ports only, or to all your trade?—There is more on the Limerick route, because the cattle get up and down, and the journey is longer, and

the cattle get leg weary, and the handiest way of getting them up is to break the joints of the tail if they are ill.

3937. You say that the railway company have stopped giving free passes to drovers?—Yes.

3938. Are they given on board the boats?—They are; but not on the railways.

3939 (Mr. Field.) To clear up the question put by Mr. Watson, with regard to the loss on the beast; it is not an actual loss, but it is a depreciation in value. Would it be your experience that if the price of cattle went up by 30s. per head by reason of the fact of their being carried properly, would not you be obliged to give more for the beast?—I would, if I did not, someone else would.

3940. Competition would arise between you and others at the fairs?—Yes.

3941. It is not the dealer who would receive the benefit of that rise in value, but the producer?—The producer. I should like to say that if I take fat cattle to the butchers in Edinburgh, they tell me that if they buy their home beasts they will get no bruises on them, but those of mine will be bruised.

3942. If the cattle were not bruised, you would be able to give a little more for them in Ireland?—Yes.

3943. And stores are depreciated to some extent for the same reason?—Yes.

3944. How much?—I could not say.

3945. (Mr. Cullen.) Do you agree with Professor McCall in this, that the damage to store cattle is greater than to fat cattle?—There are more heads in it, that is a thing I cannot say. I can speak for stores more than anything else. My stores are from time to time very much depreciated.

3946. But I ask you, do you agree with Professor McCall when he said that the injury done to store cattle was greater than to fat cattle?—I cannot say that.

3947. Do you agree with Professor McCall?—I would agree to this extent, because we cannot see it in the store cattle, and we can in the fat cattle.

The witness withdrew.

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Abraham.

Mr. THOMAS FELL ABRAHAM called and examined.

3948. (Chairman.) You are a member of the Committee of the Liverpool Branch of the Royal Society for the Prevention of Cruelty to Animals, are you not?—I am.

3949. And you are a member of the committee that drew up rather an elaborate report which has been addressed to this Committee, I believe?—Yes.

3950. Will you please tell me how this report was drawn up, what committee had you, and what steps did they take to verify the facts?—We had a committee of five.

3951. What did they consist of?—They consisted of Mr. Alfred Booth, a member of this Committee, myself, Mr. Lace, and Mr. Culshaw. Mr. Ramsden was not a member of our committee, but he was called in by us to assist us, he being the President of the Butchers' Association.

3952. These four gentlemen, Mr. Booth, Mr. Abraham, Mr. Lace, and Mr. Culshaw formed a committee, and Mr. Ramsden was joined with them?—Yes, we had power to add to our number from outside if necessary.

3953. What steps did you take to collect evidence, and how far did you personally investigate the subjects on which you reported?—Before the formation of the committee a good deal of evidence was taken in the spring and early summer of last year by means of an officer of the Royal Society, who travelled backwards and forwards incognito between Liverpool and various Irish ports. He noted down what he saw as to the reception of the animals at the ports, their shipment, their treatment on board the ships, and their landing.

3954. Did he embody an account of his journeys and what he saw in the report which he submitted to you?—That report was not a written report, it was a verbal report, but in the winter a gentleman, a sea captain, was employed to report.

3955. Who was he?—Mr. Harry; he went backwards and forwards incognito.

3956. What lines did he go over?—I have his report here. He travelled on the City of Dublin Company's boats, the City of Cork Company's boats, the Drogheda, and the steamer called the "Blackrock," belonging to Mersey and Dublin Steamship Company, I think it is called, and I think he had a journey on the Belfast Company's boats.

3957. Can you give us briefly an outline of Mr. Harry's report?—Well, he first of all went over to Dublin, and he saw the yards belonging to the City of Dublin Steamship Company, and he describes them and the reception of the cattle there. He says they have a chance of getting water, but apparently very few of them ever get any food. During the passage they never get any food or water. They are very often driven on board very shortly after their arrival from the railway stations, and there is a great deal of cruel tail-twisting and beating in driving them on board. There is practically no supervision, that is to say, from the point of view of the prevention of cruelty. There are people there, but they apparently pay no attention to them.

3958. There is a society in Dublin?—Yes, there is a Dublin Society.

3959. Did you put yourself in communication with them?—We have been in communication with them.

3960. Have they, in consequence of your communications, attempted to take any steps for the prevention of cruelty?—That we do not know. We do not know that their officers would be admitted to the yard even. He noticed that as many as eight or nine beasts are put in a pen commonly, and that sometimes they are tethered, but frequently they are not tethered at all.

3961. On which side is that?—In the City of Dublin Company's boats they are frequently not tied. I ought

to explain that on none of the voyages that this gentleman took was there any very bad weather; there was a little spray coming over, but nothing which could be described as dirty weather. Apparently on these steamers there is no mechanical ventilation. The ventilation is simply by shafts and windsails, so that of course if the steamer is going 10 miles an hour, and the wind is going 10 miles an hour in the same direction, there is no ventilation at all.

3962. Did this Captain Harry go down the holds?—Oh, yes, he went into the holds. Of course when there is wind the ventilation is very good.

3963. Does he make any suggestion as to how the ventilation might be improved?—He does not, but I received yesterday information of a useful and practical character with regard to a steamer called the "Blackrock," a screw steamer on which great trouble occurred; it has a mechanical system of ventilation, worked by a fan, which answers exceedingly well in still air.

3964. Who is your authority for that?—One of the inspectors, and he said he had seen the ventilator applied.

3965. You mentioned Captain Harry being on board the "Blackrock," was he on board during that disastrous voyage?—No, it was all right when he was on board.

3966. We have had all that generally before; is there any particular point that you would emphasise that you think worth calling the attention of the Committee to in his report?—He gives the number of men employed to look after the cattle, one man in each hold, sometimes only a man and a boy, and if the weather is good, probably that is generally sufficient, but if the weather is bad it is utterly and childishly insufficient. He also noticed that in many cases the men practically are in such a state that they are not competent for their duties when they come on board, and they pay no attention to the cattle. Some of them are very drunken and unsatisfactory men, and pay no attention to the cattle whatever. It is quite the exception for the beasts to receive adequate attention on the voyage, because it takes three or four men if a beast falls to lift it up; and if they only have two men on board the ship, if one is at one end of the vessel, and the other at the other, it is palpably impossible for anything to be done until the beast has suffered great injury.

3967. Is there any other point?—He mentions that the cattle are often weary, hungry, and exhausted when they come on board, because frequently they have been removed from their pasture, driven some miles to a fair and exposed in the fair, and then they are carried by rail some distance, and then they are put on board without either food or water.

3968. Did Mr. Harry go beyond the ports?—He did not go beyond the ports.

3969. You can hand in that report if you have nothing further to add that you wish to emphasise in connexion with it. We will see whether it is worth anything or not. You mention in this report that: "The Metropolitan Police or the Irish Constabulary, as the case may be, are understood to watch the loading of cattle boats, in order to report ill-usage or overcrowding, but observation shows that even when on duty on the quay they are not accustomed to pass the gangway and go on board, and it is on board the boat that the ill-usage and overcrowding, if any, are to be seen." Do you know what powers they have?—That I do not know. I know that at Liverpool the City of Dublin Company have given orders that the inspectors of the Society for the Prevention of Cruelty to Animals are not to go on board.

3970. The society have no official status?—They have no official status.

3971. The police of course have?—But most lines admit them and welcome them freely.

3972. Do they?—Yes.

3973. In Liverpool?—Yes, to check the brutality of the drovers.

3974. Have you had any complaints from your inspectors with regard to those ships that admit your officers?—When the inspectors are there we are able to check the brutal actions of the drovers, and they are able to offer suggestions which tend to check cruelty generally, such as attempting to drive them up steep gangways, and so on. One horrible form of cruelty that is practised occurred a few days ago, and it arose

from the extreme steepness of the gangways. That is, the gangway was 26 feet long and the lift on the 26 feet was nearly 20 feet. It was utterly impossible, with all the torture, to get the beasts up this gangway, and they had to be got out of the gangway by beating them and getting ropes attached to their horns and pushing them behind. This is an instance of the utter want of provision that is made in the landing, and that occurred within the last few weeks.

3975. Is that an isolated instance, or has anything of the sort been brought before the knowledge of this society?—It has happened when the vessel in order to save time or suit its convenience instead of landing the cattle at the landing stage proceeds to the dock and the water in the dock is low through a neap tide or something of that sort. In those cases great cruelty is inflicted upon the animals in bringing them up the steep gangways.

3976. You refer to the length of time during which cattle may be left without food or water? You say in this printed report, "The Irish cattle traffic, as conducted, therefore involves the keeping of the animals without food habitually for as much as 36 to 48 hours, quite commonly it is believed for the longer time; and occasionally even this period is exceeded, as well as largely without water for periods much exceeding 24 hours." Can you give us some extreme cases?—Well, a case recently occurred in which cattle were put on board a steamer at Cork. We did not know how long they were without food and water before they went on board, but the steamer was delayed by a fog, and her arrival at Liverpool was prolonged by something like 18 or 20 hours, the whole passage taking from 40–42 hours, so that I suppose they would be 12 hours without food before starting, 40 hours on board the steamer; that makes a length of 52 hours. Then there was the time of landing and taking up to the cattle market; that would probably extend it a good many hours longer. I think it will be seen that the beasts on that occasion were probably without water, certainly without food, for nearly 60 hours.

3977. Would they be as long without water?—An application was made on the voyage for food and water for the cattle. There was hay on the steamer, which was part of the freight, and although they offered to pay more than its market value they were refused it because it was part of the cargo, and they could not break the bulk of the cargo, and then they said that they could not have water because they had no means of condensing water, and they had no store of fresh water on board.

3978. That would mean 48 hours, but you estimate it at somewhere about 60 hours. Do you think there would be no opportunity of drinking?—We cannot tell.

3979. Had they any opportunity of drinking at Liverpool?—If they were landed at the landing stage.

3980. Were they landed at the landing stage?—Well, they would have the chance possibly, but they are in a transition state there, and it is being re-modelled.

3981. But in Glasgow when cattle are landed the owners will not allow them to drink; they say that they injure themselves with the water. Does that idea prevail in Liverpool?—We have never heard it suggested by the persons interested in cattle that they should not be allowed to drink. The people in the cattle trade say that they should be allowed, and that it is monstrous cruelty that they are not allowed; they also tell us that the beasts are so thirsty that they lap up the filthy water in the gutters.

3982. We had a distinguished veterinary surgeon here yesterday who gave evidence that in Glasgow the drovers and the owners of cattle would not allow them to water the moment they came on land, and he himself thought it was better to have a walk of a mile or two after leaving the ship, so as to cool the cattle down in hot weather, and to heat them up in cold weather before they are allowed to water them. You say that that idea does not hold good in Liverpool?—It has never been suggested to us by any of the persons whom we have consulted in the trade.

3983. In Liverpool, I think, they adhere to the practice of not feeding cattle within a certain time of being slaughtered. Has that come within the scope of your observation?—In the Birkenhead lairs most ample provision is made, and they are feeding almost to the moment of being slaughtered.

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3984. Did you receive any evidence as to the condition in which the cattle arrived from the "Blackrock" on that disastrous voyage when they were landed?—They were simply horrible.

3985. Did you take evidence on that?—Yes.

3986. Have you any notes of the evidence or any details?—No. I have heard the description; they were mixed, the dead and the dying.

3987. You mention in the printed report, after stating the number killed, "Of the dead many were crushed, suffocated, and drowned in the holds, and of those alive many were in a horrible condition, requiring to be put out of their misery on being hauled ashore." That is a point to which you have, no doubt, had your attention directed. Who has the power to put injured animals out of their misery?—That is the difficulty. The captain of the ship says he has nothing to do with them. The captains deny that they have power or authority to order the destruction of those beasts, and they are left in their misery until the owner can be found, and very often they are so covered with blood and filth that they cannot be identified, and that was the case with a number of ships in the latter part of last year—the beasts were in such a state that the owners could not tell whether they were theirs or not, and the authorities in the ship would not order them to be killed, and they were dragged out, suffering excruciating agony, by any means available, out of the hold of the ship, and in some cases chains were put round their horns and they were hauled by their horns by the steam winch. That occurred only in a few cases, and was stopped.

3988. The captain says that he has no power, and he will not take the responsibility. As soon as the beast is slung on shore he ceases to have responsibility, but no one has the right to slaughter it on the ship?—That is so. On shore, if the inspectors of the society say "that beast is so bad that you must not put it into a float; we will prosecute you if you attempt to drive it or do anything with it but slaughter it," then the owner or the agent may order it to be slaughtered.

3989. But the usual course is to put it into a float?—To get it into a float any way they can.

3990. Would you recommend that the captain should have authority conferred upon him to slaughter hopelessly injured animals on board ship?—Yes, as on the Atlantic steamers.

3991. What would you suggest to do with the animals after they land?—Well, as to the carcasses, that would be a question.

3992. I do not mean the carcasses. Supposing the injured animal is slung out with a broken limb, have you any proposal to make to prevent it being put to torture and taken to a distant place to get slaughtered?—All that we want is that some person should be responsible, and our idea is that as long as the beast is on board ship the captain should be responsible. The moment it comes on a quay or landing place the agent of the owner or the agent of the shipowner should be the person responsible in case the slaughtering is not performed.

3993. Do you wish it to be the agent of the owner or the agent of the shipowner, or that the agent in the first instance should be able to fall back upon the agent of the shipowner, if necessary?—Yes, there are cases where they are landed when the owner is not there.

3994. You mentioned that last year in a number of cases cattle were landed so covered with blood as not to be capable of identification, so that the owner could not be traced?—That applied to the "Blackrock," the "Mayo," the "Cavan, and, I believe, another steamer. I believe in all those cases they were so disfigured that they could not be recognised.

3995. These were out in that very rough weather in November?—Yes, but there are numerous cases of maimings and broken limbs.

3996. Have you any record?—Within a month there were 14 beasts with their limbs broken on one of the Belfast steamers.

3997. What month was that?—Within four weeks of this time there were 14 landed with their limbs broken.

3998. From one vessel?—From one vessel.

3999. How was that?—She had had a little rough weather, and she rolled and tumbled about a bit. In

one case a prosecution was instituted and the case was dismissed. The man in charge of a poor beast with a broken limb, the bone of which was sticking out from the flesh, seized hold of it by one of the horns, another man got hold of it by the tail, and another by one leg, and they dragged this poor beast over a rough deck for some considerable distance, and it had to be brought out with a sling. They were prosecuted, but they were let off because the magistrates felt that as there was no proper provision for landing the beast, the men were only doing all that could be done under the circumstances.

4000. They put the animal into the sling and got it ashore?—The sling does not deliver it into the float. I believe there is a sling which the City of Dublin Company use with a little crane attached, which lifts the animal into a float in a very humane manner, but none of the other companies have such an apparatus. This was not one of their boats, but in this case that I am speaking of, the animals had to be dragged along part of the boat on their backs into the floats in any sort of fashion.

4001. That is the case of one prosecution, can you give instances of any other?—The captain of the "Mayo" was prosecuted because he, having arrived in Liverpool on a Saturday, after 20 hours passage, with a large number of maimed animals, landed those who were able to walk ashore on the Saturday afternoon, and he then took the ship into the Clarence Dock and landed a few more, and on Sunday morning came back to the landing-stage with some of those poor beasts lying in the hold without food or water, and without any sort of attempt to relieve their sufferings, and they were not discharged until noon on the Sunday, they having been embarked on Friday night at Dublin.

4002. What was the result of that prosecution?—That was dismissed also.

4003. On what grounds?—Because the magistrates said that the captain had to do with the navigation of the ship, and nothing to do with the cargo.

4004. Then if that contention is right there is no responsibility?—Absolutely none.

4005. You want to change the law no doubt in that respect?—Yes.

4006. Have you any other case of prosecution?—Not that I remember.

4007. Had you any case of prosecution for prolonged starvation of animals?—No, not as far as I am aware, because they would be dismissed on the same ground. We do not know whom to prosecute.

4008. On the general question of cruelty, have you had a prosecution in connexion with excessive beatings and tail-twistings?—Those have been occasional, but it is almost useless to attempt to do much. When the poor beasts have to be got up the steep, slippery, wet gangways they are exhausted and almost half dead, they are all in a sweat, their brains are in a muddle, and they hardly respond to blows, and nothing but violent blows and twistings of the tail will get them out, and the magistrates reply that they have to be got out and these men have to get them out somehow.

4009. Have you interfered in any way between sticks and goads?—The use of sticks, I believe, was put a stop to in the Birkenhead lairages, and a goad of a particular character is used there now, I believe, with great advantage.

4010. Has there been any prosecution?—I believe there was years ago.

4011. As against the goad?—No, I do not think that. The goads are of a defined character, and they do not inflict injury. It is something like this: The goad causes a little local pain, but not an acute agony, like a violent beating on a sensitive part with a stick, or as in the case of twisting the tail.

4012. As to the tail-twisting, did you go into that at all. Have you reason to believe that cases of tail-twisting frequently cause fracture?—Occasionally there are cases, and there have been prosecutions for it in former years.

4013. A witness examined to-day stated that, in the case of cattle sent from a certain port to Glasgow, he would put down the amount of tails broken by tail-twistings at 20 per cent.; certainly over 10 per cent.?—I have no definite information upon that point.

4014. And you have no reason to believe that the practice of excessive tail-twisting exists to the extent of breaking tails?—One of the inspectors that I was talking to yesterday said that occasionally they do dislocate the tails.

4015. And you have had prosecutions for tail-twistings?—Yes, in former years; in very flagrant cases.

4016. In former years, but not now?—Quite so; but now a prosecution for that sort of thing would be practically impossible, because our inspectors are not allowed on board the City of Dublin boats, so that any amount of cruelty may be performed with impunity.

4017. You would recommend that there should be arrangements for feeding animals on board?—Yes, whenever the voyage has become prolonged from any cause.

4018. In order to do that you would have to have certain arrangements on the alley-way to get at the cattle?—An alley-way is necessary for some other reasons as well.

4019. Are any of the steamers that come into Liverpool, that are engaged in the cattle trade, without alley-ways?—I believe most of them are. None of those that I have been on board of give any provision for alley-ways.

4020. What is the longest average passage of the cattle boats from Ireland, taking it from Limerick or Waterford?—The Limerick passage is rather a long one. I really do not know, I should think about 40 hours; they must be fed on that passage.

4021. Is there any cattle trade with Limerick?—Very small; I believe a little.

4022. Then how long do they take from Cork?—The steamers take from 20 to 30 hours, according to the weather.

4023. You are not aware of any alley-ways in connexion with those ships?—I do not know.

4024. You have been on board the transatlantic steamers, I believe?—Yes, a number of them.

4025. Have you anything to say about their arrangements, as contrasted with those Irish boats?—Their arrangements are such that practically the animals have hardly any suffering at all.

4026. To what extent would it be practicable to apply their arrangements to the Irish boats?—I believe it can be done. The captain of an Atlantic steamer is responsible if a beast is injured, and if he does not take care of it he is prosecuted when he gets to Birkenhead.

4027. By whom?—By the inspectors of the society, who go on board on the arrival of the ship; if they find an animal with an injured leg, or a broken limb, which has entailed suffering, and the captain cannot explain its not having been slaughtered satisfactorily, he is prosecuted, and he would be fined, and captains have been fined for such things. I have seen 800 fine beasts landed, and not a scratch on one of them, and they have come through bad weather, in the month of January.

4028. Do you think that the arrangements on board the Atlantic lines may be introduced into the home-carrying traffic; of course you could not have it so elaborate?—No, they could not be so elaborate.

4029. To what extent could those arrangements be introduced?—They should have an alley-way, and not have more than three beasts in a pen.

4030. Do you lay much stress upon that?—We lay very great stress upon that. In addition to the alley-way, there should be an adequate number of competent men in charge; sober, decent men, who could be trusted.

4031. Are there men, sober and descent, in that particular profession?—They could be got.

4032. It is not very inviting work?—Not as at present conducted; but there is no reason why it should be so repulsive and horrible as it is.

4033. Are the men engaged as cattlemen on board the Atlantic vessels a satisfactory class?—They are a rough sort of wild fellows.

4034. You are aware that very great complaints have been made regarding them by those who advocate reform in the Atlantic trade?—They are all under supervision.

4035. Who supervises?—The captain or his officers.

4036. You think that the shipment of cattle exhausted and faint from want of food and water is one cause of suffering?—Yes, undoubtedly.

4037. Do you think that that suffering might be avoided?—Yes.

4038. You have spoken about the disadvantage of unsuitable ships?—Yes; narrow ships will be rolling vessels.

4039. Would you require the Board of Trade to give licences to ships for carrying cattle?—Yes.

4040. Then you speak of insufficient fittings; have you anything to say about them?—The insufficiency of the fittings is part of the question of the number of cattle in a pen. If you put nine good big beasts into a pen, and the vessel begins rolling and pitching about, the pen breaks down sometimes.

4041. And your practical suggestion is that they should be confined to three beasts to a pen?—Three big beasts or four small beasts.

4042. You spoke as to the absence of any responsibility, and you proposed to make the captain responsible; then you also spoke of the absence of suitable ventilation, have you any remarks to make on that?—Sometimes in summer the animals land staggering and sweating.

4043. You need not emphasize that, we have heard plenty of evidence as to the deficiency of ventilation. Have you any suggestion of how that is to be met, assuming the insufficiency of the ventilation?—The apparatus on board the "Blackrock" answers admirably.

4044. You do not know what that is?—It is very similar to the apparatus for introducing high pressure. On the Dublin and Holyhead mail boats, and many others, the stokeholes are under pressure, that is forced draught.

4045. Have you ever thought sufficiently of the matter to be able to say what is necessary to make the ventilation satisfactory. The difficulty appears to be in defining what is satisfactory ventilation. Have the members of your society come to any figures as to the number of cubic feet per head of cattle that would be required?—We have not, but if there is any such apparatus on board the ship, and the cattle are neglected, it is proved by the condition of the cattle on landing.

4046. Well, there is a want of definiteness at present. Then you say there is a failure to feed and water when the necessity arises. You have said nothing about that?—That is so.

4047. Then you speak of the unsuitability and the incompleteness of the provision for landing, and reception when landed. That also requires attention?—Yes.

4048. You next say that there is an absence of any person to prevent the infliction of wanton cruelty in marking, that is to say, slashing with knives?—Well, large numbers of pigs are landed at Liverpool marked by their owners or their agents, by means of knives. They take a pocket knife and make two slashes in the pig's side, and they cut through its hide, just because it is a little quicker done than by putting a stencil plate upon it, and making a proper mark.

4049. And the hide of the pig not being valuable they do not mind?—Quite so.

4050. What you have said hitherto has been confined solely to cattle?—Yes.

4051. This is a special thing applying to pigs?—Yes.

4052. Have you any other suggestion to make with regard to pigs?—Well, I do not know that I have; pigs suffer from sea-sickness, beasts do not.

4053. You have not any suggestions as to their better treatment, it is not bad in the case of pigs?—They should not be crowded, they are sometimes over-crowded and injured by trampling on one another.

4054. We have been told that cattle trample upon one another to such an extent that in some cases the very skins are to a very large extent loosened from their flesh; is that the case with the pigs?—No, but they are covered with bruises, scars, and scratches, every one of which has made them suffer.

4055. But the most important thing is the slashing with knives?—That is wanton.

4056. Have you ever prosecuted the owners for that?—We cannot, because we do not know where it is done. It is probably done in the yards at the point of embarkation.

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4057. Have you any communication with the Dublin branch of your society?—No, because this was only definitely brought to my notice yesterday, it was a thing which had been forgotten to be mentioned.

4058. Does that prevail now?—Yes, largely to this day.

4059. Would it not be worth while to try whether it could not be remedied in the existing law by putting your Dublin colleagues on the alert?—But they are not admitted to the yards, what can they do if they have no right of entry to the yards? I would suggest that all such places and the boats should be open to any adult male who chooses to apply to the Agricultural Department for an order. That would stop it more than anything else, because any person who choose to apply would be an inspector. I went on board on Sunday, and I was ordered off.

4060. That is a practical suggestion, and I suppose that is the only way in which a status can be given to the officers of your society?—Yes.

4061. I suppose you can hardly take into consideration the question of the cost or the economic questions involved in the amelioration of the traffic?—That is a difficult question, but my own idea would be that the department that has charge of it should issue certificates before the cattle were allowed to go on board, and that a charge should be made dependent upon the number of cattle, 1d. or 2d. per head, and that should be sufficient to cover inspection at all points.

4062. Would that inspection be by the Board of Trade or the Agricultural Department?—By the Agricultural Department.

4063. (*Mr. Watson.*) Those visits to Ireland which you have been speaking of, did you make them yourself?—No.

4064. Did you make any visits yourself?—I have been, but not in the capacity of an inspector.

4065. And these you are speaking of, are they all made by Captain Harry?—As to Liverpool and Birkenhead, by myself, but as to the Irish ports by Captain Harry.

4066. Were these visits made by Captain Harry in Ireland?—Captain Harry and an inspector went there last summer.

4067. Were they made in the spring and summer?—Yes, of last year.

4068. And since then have some other visits been paid?—Yes, in the winter.

4069. Who is Captain Harry?—He is a steamship captain.

4070. In what trade, has he any experience?—In the foreign trade.

4071. Is he an officer of the society?—No.

4072. How was he employed by the society?—Well one of the members of the society undertook to pay his expenses.

4073. He is not a permanent official of your society?—No.

4074. He did not go as an amateur, but at the request of someone?—He is an intelligent, reliable man and he went on our behalf.

4075. Were his expenses only paid?—His expenses would be paid for him.

4076. Was he paid also a fee for going?—That I do not know.

4077. What ports did he visit?—Dublin, Drogheda, Waterford, Cork, and I think Dundalk or Newry, but it is mentioned in his report.

4078. You spoke of a very steep gangway in Liverpool?—Yes.

4079. Twenty-six feet being the length of the gangway and the height from the deck of the ship to the quay was 20 feet?—Yes about that.

4080. Was that to the deck of the ship or to the water?—To the deck of the ship.

4081. So that you get the angle from that?—I reckon an angle of 40 degrees, something approaching the roof of a house.

4082. You spoke of a vessel that went to the Prince's Dock, a Belfast ship, do you remember the day that it took place?—It would be last Sunday fortnight, I think, I am afraid I have no note of the exact date.

4083. It was in the Prince's Dock?—Yes, the Prince's Dock, it was an especially difficult case, of course.

4084. An extreme case, I assume?—An extreme case.

4085. Of course the water in those docks sometimes goes pretty low?—Yes.

4086. Did the cases of cruelty that you speak of come under your personal observation?—What cases of cruelty, there are so many?

4087. Well, the cruelty at landing, this maiming and breaking of beasts' legs on the ship and at the landing stage?—No, it did not come under my own observation.

4088. Did you see any of it?—I have seen cattle landed after a stormy night.

4089. You have seen no cases of injured beasts that you were speaking of?—Not myself, but others have seen them.

4090. Do these cases happen frequently?—Frequently.

4091. Or in bad weather?—It is in bad weather. It is as often bad as fine on our coast.

4092. Well, then you speak of not being allowed to go on board the City of Dublin Steam Packet Company's ships, so that you are not speaking of what you have seen of the brutality, but you say that the brutality does go on on board?—Yes.

4093. And what is your reason for saying so?—The drovers cannot get them out without using sticks and so on.

4094. And does brutality go on to your knowledge?—I know on Sunday there was a perfect—I do not know what to call it—but blows, blows, were falling inside the ship like the beating of the hammers of a threshing machine.

4095. Did you hear it?—Yes.

4096. Were you present?—Yes, I heard it; the men were using great sticks.

4097. With regard to the marking of pigs that is done by the owners?—Yes, or their agents.

4098. Where is it done?—We presume it is done at the port of embarkation.

4099. Why?—Because they are so marked when they get to Liverpool.

4100. You assume that it is not done in Liverpool?—Certainly.

4101. You speak of a Cork boat in which the cattle were without food for 60 hours; can you give me the particulars of that boat?—They were not on the boat for 60 hours.

4102. They were without food for 60 hours?—Yes, I believe it was the "Glemnure."

4103. When was that?—That was on Sunday and Monday; it was about a month ago.

4104. (*Mr. Booth.*) You are here really to speak to the investigations made by the society, rather than as a personal witness to acts in the cattle trade, which you have not investigated personally?—Yes.

4105. And you are here to speak to the report that was issued by the Liverpool Committee of the society, and especially to the recommendations that were made on page 9 of the report?—Yes.

4106. Those recommendations are divided into three or four heads, for the sake of being clear, and the first of these heads is with regard to the food and water question; the second as to the necessity of strengthening the regulation under the Animals (Ireland) Order of the Privy Council, under the head of sea transit?—Yes.

4107. Under this latter head are included the question of the size of the pens; the necessity for effectual ventilation; the question of head ropes and footholds; the insistence upon having at least one alley-way fore and aft of the vessel, allowing for the passage of men from end to end on each deck between the pens; and to define the number of attendants required on a voyage to look properly after the cattle, and also to the need of establishing upon the captain of the vessel the responsibility for the due care of his cargo until it leaves his charge?—Yes.

4108. Those were the points which were made in this report, and insisted upon by the society as the main points that they wish to urge, and you are here to emphasize those points?—Those are the recommendations contained in the report.

4109. With regard to the inspection made of the ships, the society in Liverpool has, as you mentioned, very few inspectors?—Three, I think.

4110. And they cannot undertake to meet every boat?—That is so.

4111. And a private society cannot be expected to deal with the Irish cattle trade?—It cannot.

4112. With regard to the responsibility for giving orders to slaughter at the time of landing, do not you think that authority might be held and exercised by the inspector of the Board of Agriculture?—Probably that would be very good if he was always there.

4113. But as far as we know, is he there now?—No, there is no one there now.

4114. Then, with reference to the want of food and water, and the starvation question, were you acquainted with anything before the investigation was undertaken last winter?—I think only in a general way.

4115. The detailed facts that came out through our investigation, were practically new to the members of the society, I believe?—Yes, they were. I have often crossed in cattle ships, and yet I had no idea of what was going on.

4116. With respect to the effect of the reports made by the travelling inspector of the society last spring, which were made in fine weather, it was rather to set the society off the track, and to leave them to imagine that matters were much better than they are?—Entirely so.

4117. And it was soon found by the committee that his reports were really of a very superficial character?—Yes, because they really only applied to the fine weather.

4118. And he did not go into the question beyond what he saw in the few passages that he made?—It was in the slack season, when there is no overcrowding, and when there is also fine weather.

4119. Consequently you did not pay any regard to his reports?—That is so.

4120. (*Mr. Field.*) Is there not an absence of some responsible person charged to look over the live stock traffic between Ireland and England?—Well, it is hard to say, because it might be done in two ways: it might be done by means of an inspector, or it might be done by making the captain responsible criminally for neglect. On the Atlantic steamers we have no inspectors, and yet the thing works all right.

4121. I put it to you negatively this way: is it your opinion that at present nothing is done?—Nothing whatever.

4122. That is your deliberate opinion, founded upon your reports and your personal experience?—As far as any practical effect goes, nothing is done to alleviate the sufferings of those poor beasts until they are on their way to the cattle market in the English ports.

4123. Are you aware that there are certain regulations laid down according to the Act of 1886?—Yes.

4124. Do you know if any endeavour has been made to carry out those regulations?—If it has it has been done in such an imperfect manner that I think it might as well not have been done at all. The vessels are not even bound to renew their licences.

4125. May I take it that although these regulations exist, practically nothing is done by the authorities on either side of the channel to have them enforced?—That is so.

4126. Did you ever come across any legal remedy for this state of things?—We have tried to put the law in force, but without much effect.

4127. Although the law exists for the protection of everybody else in the community, as far as your experience goes in connexion with the cattle trade the law is practically non-existent?—That is so.

4128. There is a want of responsibility somewhere?—Yes.

4129. Is it your opinion that the absence of this responsibility in any quarter is the cause of these grievances?—Almost entirely.

4130. You would modify the arrangements that exist on the oceanic transit in such a way as to make them applicable to the cattle ships in the cross channel trade?—Yes.

4131. Do you think that they could be made applicable by divesting them of some of the more expensive

details so that the live stock carried across a few miles of the channel could be brought as safely as from America?—Yes.

4132. As a gentleman who has taken some trouble in this matter, does it strike you as being an extraordinary thing that cattle should be carried thousands of miles without any bruises, and that they cannot be brought from a portion of our own dominions in an equally good condition?—It is extraordinary; of course, the Irish vessels are necessarily of lighter draught.

4133. Does it strike you as a free trade notion that we seem to afford much more protection to foreign productions than we do to the produce obtained by the native and resident taxpayers?—Yes, it looks like it.

4134. You think we ought to have supervision?—Yes.

4135. And that the Board of Trade ought to be more particular in giving licences to cattle ships in this cross-channel trade?—Yes.

4136. And you think that the want of ventilation is one of the real sources of a great deal of mischief?—In hot weather the absence of ventilation is a source of enormous suffering.

4137. And you feel very strongly that an order to inspect should be given to every resident adult who desires to see how things are carried on, either on board ship, or the railways, or shipping yards?—I believe that such a provision would have a widespread influence in checking wanton cruelty.

4138. I believe that it is your opinion that the law requires large and immediate amendment in this particular matter that we have under inquiry?—Certainly.

4139. And that the regulations ought to be enforced by someone connected with the Government, and you are trying to form public opinion upon this matter?—Yes.

4140. (*Mr. Parker Smith.*) You are not a lawyer?—No.

4141. And you would not like to be asked legal questions about the present state of the law?—I know a good deal about the law with reference to this matter, but purely legal questions I could not go into.

4142. (*Major Tennant.*) You mentioned that the losses in the American trade are very small as compared with those in the Irish trade, did you not?—The rate of insurance, which is an index, has fallen from about 8 per cent. to 15s. in the American cattle trade; there is no practical loss or injury to the cattle in the American trade compared with what we are speaking of now.

4143. We have had it in evidence before us to-day that there was something like 6,000 cattle carried from Ireland, and the animals actually lost were two. Are you aware that, as a matter of fact, in the Atlantic trade we have nothing approaching such a good figure as that, even with the benefits of the Atlantic regulations?—Those figures cannot possibly be of any value, because we know very well the facts, taking the year round, are the very opposite. If those figures are taken as representing the average loss they are absurd, because they do not represent it.

4144. What loss do you refer to?—There were 250 beasts lost on the "Blackrock" alone; there were 50 in the "Mayo," or more; there were 20 or 30 in the "Cavan"; 13 in one of the Belfast boats only the other day; and those were all going to Liverpool. We know nothing about those that went to other places.

4145. Are you aware, as a matter of fact, that not a year passes with regard to the Atlantic trade that there are not cases reported where the loss amounts to 60 or 70, or even 80, per cent. of the whole cargo?—Such cases did happen years ago, but they do not happen now, not in the regular cattle ships.

4146. When you say that it does not happen now, what ground have you for saying so?—Because with the regular lines they deliver hundreds of beasts without the loss of a single beast.

4147. Would you be surprised to hear that there are official statistics showing the contrary to that case?—I should be very much surprised.

4148. Would you be surprised to hear that within the last three months there have been losses in the Atlantic in some cases amounting to 60 per cent. of the whole cargo?—Those are losses in what are known in Liverpool as tramps; not vessels fitted for the purpose.

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4149. How do you know, are you speaking from hearsay or actual figures with regard to the statement you have made?—I saw the cargoes of two regular ships.

4150. But you are taking some favourable examples?—The only two I have seen.

4151. But you are not speaking from personal knowledge?—I saw the cargo of one.

4152. I am not speaking of the cargo of one, particularly good specimen. You have given us the "Blackrock" as a good specimen from your point of view, but you have not mentioned the bad specimens in the Atlantic trade?—Those would be tramp vessels that we do not recognise.

4153. You do not know. You mentioned a suggestion of yours that only three beasts should be carried in a pen?—Those are fat beasts.

4154. Are you aware that in the American trade the regulations are not so limited as that, and they permit the carriage of four or five beasts in a pen?—Possibly so on the big ocean steamers, they are steadier than the small channel steamers.

4155. You think that the pen should be smaller and carry fewer beasts than in the American trade?—Yes, if anything smaller, because the vessels are also smaller.

4156. I should like to ask you a question with regard to the use of the goad. Have your society, so far as you know, ever done anything to discourage or to encourage the use of the goad. Have they taken any action one way or the other?—I could not give definite information upon that point; I believe that they have encouraged the use of the goad at Birkenhead, but when that was or how it came about I cannot give any information.

4157. Do you happen to know whether they have in any instance prosecuted drovers for using the goad?—I believe there have been prosecutions for the improper

The witness withdrew.

Mr. M. G.
Hennessy.

Mr. MAURICE J. HENNESSY called and examined.

4165. (Chairman.) You are a member of the firm of J. Hennessy and Sons, salesmen of British and foreign cattle, sheep, and hogs, of Bristol, are you not?—Yes.

4166. And you have been a trader for 25 years?—Yes.

4167. And you sell from 100 to 800 cattle and sheep weekly?—Yes.

4168. Your experience is that the rate of mortality is very small compared with the total importations at Bristol?—That is so.

4169. You find that at times a large number of animals are landed apparently in fair condition, but after a few days they are suffering owing to their having been badly stowed on the vessel, especially when the weather was unfavourable, and they have consequently suffered internal injuries?—That is so.

4170. To what extent do you come across such cases?—Probably we might get three or four vessels during the season, and most of the animals would be more or less injured like that, but they would not show it.

4171. Do you deal principally in fat or store cattle?—Both. This would refer more especially to store cattle.

4172. In the case of fat cattle the injury would be shown when they were slaughtered. Have you had complaints of broken limbs?—We frequently get cases of fat cattle being very seriously bruised.

4173. Chiefly bruises, I suppose?—Yes.

4174. Have you had complaints, such as we have had from another witness, of broken ribs?—Yes, frequently, but not so much as we had a few years ago.

4175. How is that?—We have a better class of vessel now.

4176. Have you screw or paddle vessels?—Both; but screw boats, as a rule. We have only one paddle boat now; we had two paddle boats.

4177. Have you any predilection in favour of screw or paddle boats?—Our boats are most of them now constructed purposely for the cross-channel service, and I think I would sooner have the screw than the paddle; the screw boats are faster.

use of the goad. There are, of course, goads and goads, a proper and an improper goad.

4158. The prosecution that you mentioned was where an exceptional goad was used?—A cruel goad.

4159. I understand that you say that your society cannot get entry into a ship to see what is done?—I did not say that exactly, I said that most of the ship owners have no objection to our officers going on board; they go on by sufferance, and they are willingly permitted, but that lately the City of Dublin Company, which does the bulk of the trade, has forbidden our officers to go on board.

4160. Are there many ships that do allow your officers to go?—Yes, and they welcome them, because they do not wish cruelty to be inflicted.

4161. I am quite in sympathy with your view about that. May I ask what you propose, is it that you should have granted by law a power of entering the ship?—I think that as this traffic necessarily involves animal suffering, it should be conducted under the eye of the public, just as the public are admitted to slaughter-houses, and the police go to fairs and other places where it is likely that cruelty would arise. I think that the public have a right in the interests of the humane treatment of animals to be admitted to such places as those where cruelty is likely to take place.

4162. (Mr. Watson.) May I ask one question that arises out of your answer to Major Tennant; You spoke of another ship which we have not heard of before having lost 20 or 30 cattle, the "Cavan"?—I believe there was a considerable number lost there.

4163. You said 20 or 30 died on the "Cavan"?—I do not know about their being dead, maimed I believe, yes, I believe 20 or 30 were dead.

4164. You said that 20 or 30 were dead?—I find I was wrong; two were dead and seven were so injured that they had to be slaughtered.

4178. Have you anything to complain of as to the amount of ventilation?—Yes, that is a great thing; I think they should be ventilated better.

4179. Do you know how they are ventilated, mechanically, or how?—They are ventilated by means of those iron funnels, and the old-fashioned canvas over the hold.

4180. Do you think they are sufficiently lighted?—That is a very bad point, especially if a vessel is detained by accident or anything, say a fog, in the channel or outside the river.

4181. You prefer the electric light?—If that was practicable, because that is by far the best.

4182. Have you, in the course of your experience, come across any cases of blindness from the hold?—Yes, a great many.

4183. How many?—I have noticed it a great deal more with sheep than with cattle, the cattle probably stand it better.

4184. That is a new point. Then about the sheep. Have you come across any examples in which you have had a number of sheep blinded?—Yes, we might get two or three in 100, and keep them for a week, or sometimes two or three weeks. The over-heating and want of ventilation seems to affect the eyes, and they turn blind.

4185. We have evidence that amongst the cattle there were sometimes 5 per cent. affected with blindness?—That would be rather an extreme case.

4186. With reference to the sheep, is the blindness ever so bad as to be permanent?—Not in many cases. I have known sheep to be partially blind for a month.

4187. Are the cattle trading with Bristol tied up or are they loose generally?—In some boats they tie them, but in other boats they do not. The fat cattle should be tied as a rule, I think.

4188. Is the greater portion of the cattle tied or untied?—Most of them come untied, because four-fifths of the cattle or more at certain times of the year that come from Ireland are store cattle.

4189. Are all the store cattle untied?—Yes, in bay or pens.

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4190. Now take the fat cattle, are most of them tied or untied?—On certain vessels they are all tied, and on others they are not.

4191. Take your own cattle?—Most of our cattle we have tied if we possibly can.

4192. Have you any cattle men come over with the cattle from Ireland?—Only on certain boats.

4193. You have no servants of your own?—Only on certain boats going backwards and forwards. But there are other boats where they will not allow cattle men, that is to say, the company have their own men, they insure them, and the company take all risk, and they will not allow me to send my own men or interfere with them in any way.

4194. Where you are allowed, do you send your own men, and do you prefer having your own men with the cattle?—No, we prefer to let them find their own men. Our mode of insurance is very satisfactory; we have got, probably, the best insurance of any port in England.

4195. What is the peculiarity of your mode of insurance?—We pay good freight, perhaps a little higher freight than others, and the cattle and sheep are insured to their full value.

4196. Who pays the freight, the consignor?—The consignor or the consignee.

4197. Do you buy in Ireland?—No, we receive those cattle from people in Ireland, and sell the cattle for them on commission.

4198. Do you pay?—We pay the most of the charges at this end.

4199. But the consignor has to bear those charges?—Certainly.

4200. Then do you find any grumbling on the part of the consignor at having to pay those charges?—None whatever. For instance, our firm values the dead stock, or the disabled stock, for all shippers from that port for the company, who pays them the full value of the stock, and we credit the shippers with the proceeds of that stock.

4201. How do you do when you have got invisible injuries, such as broken ribs or injured hips?—Unless the injuries are apparent they will not pay; if an animal walks ashore fairly well, although he may be injured, they will not pay; we only pay for broken legs.

4202. For animals that cannot walk ashore?—Yes; or broken horns they will pay for.

4203. What would you estimate the damage of a broken horn at?—It would entirely depend upon the age of the animal.

4204. Take a good fat beast?—The fat one—we should not value that at all, because the animal is killed the next day. It it were a store cattle it would be charged the keep of it. If we had to keep it two or three weeks to get the horn better or healed we should charge for the keep of it.

4205. But we have been told that it was very little use paying higher freight for sending cattle at the company's risk, because the mode of insurance which only insured against not being able to walk off the ship was unsatisfactory; that has been urged, and it was said that it did not cover the risk, and that was the objection made?—We have not the slightest trouble as regards our insurance, which is very satisfactory to all parties.

4206. Is it satisfactory to your clients in Ireland?—Yes, decidedly.

4207. Does this insurance cover all cases of loss?—It does.

4208. And there is no lower rate at the owners' risk in Bristol?—No, it is compulsory from one port to any other port; the value of the stock is declared by a representative of the company, and then they have to pay so much per cent. on that valuation.

4209. And is that compulsory also?—It is. You can have a higher rate if you wish in that case, but not a lower rate.

4210. (Mr. Watson.) Is that higher rate compulsory?—The higher rate is not; you can have a higher rate on a declared value, but not a lower one.

4211. (Chairman.) You can have a higher value declared, and you can insure up to that?—Yes, if you like to pay it.

4212. You also suggest that the pens should be smaller than those in use, and that not more than five or six animals should be put into one pen?—Yes, I mean fat animals.

4213. You say that horned cattle should not be allowed to mix with dishorned cattle. That is another recommendation?—Yes.

4214. You also say that the bays or pens for cattle should not be too large; that is to say, you propose to reduce the size of those at present used?—Yes; in some parts of the ship they are too small, and in the broader parts they would be much too large.

4215. You further recommend that no stock should be carried on the poop-deck of any vessel, and that alley-ways should be provided fore and aft, so that the cattle attendants can do their work properly. What is your objection to the cattle being placed on the poop-deck?—I have known cases where the cattle and sheep are placed aft the vessel, and where a vessel is pitching a bit in a cross sea, I have known animals to be swept off there, and there is very little protection for them.

4216. What part of the ship do you prefer?—I prefer the main deck. I may say, too, that the poop-deck is dangerous, in case of there being passengers on board.

4217. You propose that vessels be loaded and unloaded from the same side; what does that mean?—Well, you load a vessel down a certain stage, say on the left, on the port side of the vessel, and she goes across the channel to the dock; it would be better to unload that vessel on the port side by swinging her, because if you do not, you have to drive your stock up *here*, and round *here*, and make a regular S curve before you come out to *this side (describing)*. I have seen stocks receive a great deal of hardship in being unloaded like that.

4218. We had a recommendation made to us by another witness that different lots of cattle, belonging to different owners, should be loaded separately, and discharged separately. Is that possible, speaking from your experience?—There would be a great advantage in that.

4219. Do you see any difficulty in carrying it out?—There is not nearly so much difficulty as they try to make out.

4220. Who try to make out?—The men on board the ship: the cattle men connected with the steamship company.

4221. It is done in certain cases?—It is frequently done. You can get it done by paying for it in many cases.

4222. By paying the cattle men?—Yes; how we arrange it from one port is this: we take in turns the main deck, the 'tween decks, and the lower hold; say there are three firms of salesmen, and one says, "It is my turn for the main deck this week; the 'tween-decks the following week, and the lower hold the week after."

4223. If you can fill up any one of those compartments, I suppose there is no difficulty in keeping your cattle together?—No, we have no trouble that way. There may be trouble in Glasgow or Liverpool.

4224. Where a number of cattle are put down to different owners on one deck, there would be a difficulty?—Yes; we can land 2,500 cattle in that way without any trouble. The cattle suffer a great deal unless the ship is pretty well ventilated.

4225. You say that ships have occasionally to lie at anchor for 10 hours?—Yes.

4226. How is that; that is surely a very long time; that is owing to the very high tides is it not?—They just miss the tide, and there is a very dangerous current. I have known many steamers lie out there.

4227. In a vessel lying at anchor for 10 hours, would the cattle suffer injury from the want of proper ventilation?—Yes, they would come out in a very bad condition, you would call it; very hot and perspiring, and that is the time you might see the bad effect on the eyes of the cattle.

4228. Have the Bristol trade come to any conclusion as to the average value of the amount of deterioration suffered by Irish cattle through the injuries received in transit?—You are now speaking of fat cattle.

4229. Take them separately for both fat cattle and stores?—If we get a bad voyage, that is rough weather, most of the butchers and dealers are very chary in

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buying Irish cattle, because our experience is that if you have a rough voyage the cattle are very much more bruised when dressed than the foreign cattle or English cattle.

4230. Take the case of cattle coming in moderately fair weather, do the butchers in Bristol offer less money for the cattle in consequence of their expectation of finding them bruised and otherwise injured?—No, not in Bristol.

4231. They pay you the same price for Irish cattle as for cattle coming across the Atlantic?—Yes, they take into consideration the weather.

4232. But I am talking of ordinary fine weather?—I maintain that our cattle at Bristol as a rule come in better condition than they do to Liverpool.

4233. How do you make that out?—Because we have better boats.

4234. They arrive in better condition than at Liverpool, you say?—I think so, taking an average of six months. You were speaking of the screw boats. Now the reason that we have no prejudice against the screw boats is that those boats have been built lately for the trade. They are water ballasted, so that if there is an auxiliary boat put on we can have 200 or 300 tons of water put in it at a very short notice.

4235. Before that arrangement did you have an objection to those auxiliary boats?—Yes, they lift like corks without cargo or ballast in them.

4236. (Mr. Field.) You deal in stores and fat cattle, mainly from Ireland. You are speaking of Irish cattle?—Yes, we deal with other cattle as well.

4237. Did you ever travel with these cattle yourself?—Yes.

4238. Frequently?—Yes.

4239. You are of opinion that improved ventilation is wanted?—Yes.

4240. You remember sheep being blinded?—Yes.

4241. Would you recommend the electric light being applied to those boats?—Yes.

4242. And you would prefer that the ship's own men were made responsible?—If they insured them at a fair rate.

4243. You also think that it is quite practical that a lot of cattle belonging to one owner should be kept together, and loaded and unloaded together?—Yes.

4244. With regard to insurance, is your insurance rate compulsory?—Our insurance rate from Waterford is compulsory.

4245. That is to say, that the shipowners will not ship a beast or a sheep, a calf or a pig, unless it is insured, is not that so; it is a compulsory rate?—It is mixed with the freight; there is no mention of insurance whatever.

4246. But, of course, it is absolutely *de facto* an insurance freight. Do you find that work well?—Yes.

4247. And the consignors from whom you receive goods have no objection to pay a fair increase on the freight in order to get their goods in better condition?—That is so.

4248. We may take it that in consequence of two or three factors; first, I take it in consequence of this insurance rate; secondly, in consequence of the ships being better; and thirdly, in consequence of this water ballast system, the result is that cattle and sheep come to Bristol in better condition than from any other port in Ireland?—I think so.

4249. That is your opinion, having experience of your own port, and of others?—Yes.

4250. Then I think we can get from this witness that, in consequence of the superior carriage of the

cattle, and the greater care taken in the transit, that the cattle do not suffer the same depreciation in ordinary fine weather as from other ports; that is to say, an Irish beast in Bristol commands nearly as good a price as an English or foreign beast?—Not as good a price as English, but as good as foreign.

4251. What would you put the depreciation at if you had so many score of 6 cwt. beasts of the same quality?—If the man had any doubt, it would vary from 1*l.* to 2*l.* 10*s.*

4252. That would be in the case of a bad voyage?—Yes.

4253. When the voyage was fine what would it be?—Then no question would be asked. They would be a farthing a pound less than English beasts, but still they would be a fair price.

4254. There is nothing like the same depreciation, because your beasts are as a rule carried well?—That is so.

4255. (Mr. Booth.) What lines of boats run with cattle to Bristol?—The Waterford Steamship Company, the City of Cork Steamship Company, the Bristol General Steam Navigation Company, and the several little traders.

4256. Which of these three leading ones that you have named carries the most?—The Waterford Company.

4257. Your service of boats are mostly of a new and improved system?—Yes.

4258. And that applies to all those lines?—The Waterford chiefly, but also the Cork boats are good, and the Steam Navigation Company may be probably the oldest.

4259. With reference to sheep, do they practically put sheep on the 'tween-decks?—Sometimes the boat would be three-quarters filled with sheep.

4260. They put the sheep all on deck?—Anywhere, the lower hold, the 'tween-decks or anywhere.

4261. (Mr. Watson.) This rate which you spoke of covers insurance. It is not an insured rate, but it is a rate which covers the insurance. What insurance does it cover?—The full value, the freight covers the insurance, the full value.

4262. Do you mean the declared value?—There is no declared value at all. We value it. Supposing a Waterford boat came in to-morrow with 10 fat cattle damaged, I would see those, and one of our firm would value those 10 cattle. The shipowners we would give credit for what those carcasses would make, and they would pay the consignees for those various lots of cattle at the value we valued them at.

4263. Does that insured rate cover total loss or injury?—It covers for injury, that is a substantial injury.

4264. What is the further rate, the per-centage rate, that you may or may not pay?—I was coming to that; that is from a different port, the first is from Waterford.

4265. Waterford has only the one rate?—Waterford has one rate made between us as shippers and the company.

4266. It covers the value of the beast?—The full value.

4267. The other is from Cork?—Yes; that is a rate per cent. upon a declared value by a representative of the company, and it is paid in proportion generally about two-thirds of the value; but if you, as shipper, wish to make it the full value you can insure for the full value by paying a higher per-centage.

4268. The fixed rate of freight covers about two-thirds?—Yes.

The witness withdrew.

Adjourned to Friday, the 27th instant.

SEVENTH DAY.

At No. 7, Whitehall Place, S.W.

Friday, 27th April 1894.

PRESENT :

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir Wm. S. B. KAYE, C.B., Q.C.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.

Mr. INGRAM WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Mr. EDWARD WATSON called and examined.

4269. (*Chairman*.) You have been a managing director of the City of Dublin Steam Packet Company for eleven years, have you not?—Yes.

4270. And you were for a long time prior to holding that position in the service of the company?—Yes.

4271. You are also a member of the Dublin Port and Docks Board and the Dublin Local Marine Board, and a director of the British and Irish Steam Packet Company?—I am.

4272. I see in your statement that a number of improvements in the modes of cattle transit between Dublin and the British ports have been carried out under your supervision?—Since 1878 I may say that I have had the management entirely in my own hands.

4273. To what improvements do you refer?—Improvements in sailing the vessels, alterations made in the gangways, and the lighting of the ships.

4274. The City of Dublin Steam Packet Company is the only steam packet company which was in existence in 1824, I think?—The company has been in existence since 1824, 70 years ago. They are the oldest company in existence, and they were the first company to carry cattle in steam vessels across the Channel.

4275. Dublin is the port from which the largest number of cattle are shipped?—I believe so, more than any other.

4276. Then you claim to carry more live stock than any other company?—No one company from Ireland carries so many animals as we do.

4277. Can you give us any statistical information as to the number?—I can give the numbers, say, from last year; we carried nearly 100,000 cattle and over 200,000 sheep and lambs.

4278. How many pigs?—We carried 43,000. I should say, with regard to pigs, I think the London and North-Western carry more pigs than we do.

4279. You are a member of the Irish Steamship Association, an association of which almost all the cross-channel companies are members?—Yes, I am.

4280. And your views coincide with those of the association?—They have requested me to give evidence on their behalf. I should like to add that on some of those points I have been in communication with the London and North-Western Company, and the general manager is ready to come forward to give evidence if requested; but I am authorised to state that their views and mine are quite in accord.

4281. Great improvements have been made in Dublin in the accommodation of ships?—Yes, within the last 20 years. Dublin 20 years ago was a completely tidal port, and vessels sailed according to the tide, but since 1874 the quay walls have been rebuilt, the City of Dublin and London and North-Western Companies sail at fixed hours every evening.

4282. You mentioned a minute ago that among the improvements that have been made you have made improvements in the gangways?—Yes.

4283. Would you please describe them?—I have a model here, which I shall produce. One of the reasons for preparing this model was that on reading through the evidence I found statements made about the gangways being of a very primitive nature, constructed of barrels and planks. Such was the state of things 20 years ago, but not now, so far as my company is concerned. What I propose to do is to show by this model (*producing the same*), first, the gangway at it is at high level; and then I intend to show it at various angles. This is a hinged mouthpiece, and as the gangway falls with the tide it is always kept in proper position, so that the cattle can walk up the stage and walk on to it. This is the quay end, and this is the ship's end (*describing*). This is a device to prevent any injury to cattle when passing into the gangway, and to prevent the bruising which some of the witnesses have spoken about. Of course I should explain that these in use are hinged, and all lashed together and fastened. The doors of the sheds where the cattle enter come *here*; these planks are just inside the door, and that represents, assuming this to be a street, cattle driven in *there*, and they pass along *here*; and, as the Committee can see, there is no chance of bruising, as there are no angles abutting. They come in *here*, and come down the gangway stage. As far as possible we like to load at high water, and that cannot be done unless the cattle are in good time, and when the tide falls, the gangway assumes and keeps the same relative position on the quay; and on the ship the apron or mouthpiece rises, and the greatest angle when this cattle stage is in use is 24 feet, and has an angle of 30 degrees; that is, in spring tides, that is the steepest angle. I will show you an angle of 30 degrees; this is the extreme case so far as our ships are concerned. *Here* is the angle, that is an angle of 30 degrees measured by a protractor, and that is the lowest spring tide. That is the angle which that cattle stage would have had, and that would be only occasionally. If the cattle arrive in Dublin in sufficient time, they will load at high water, and this would not arise. Now I will show an angle of 45 degrees, assuming that the thing is possible; there is an angle of 45 degrees. Our cattle stage is never at such an angle, and I do not believe that if any cattle stage were at such an angle, that cattle could walk along it, and the evidence that has been given here is quite exaggerated, and so far as our ships are concerned, it never arises.

4284. Will you explain what these model planks are along the side of the alley-way?—Those are planks to allow the cattle caretakers to stand upon as the cattle are sent along.

4285. They are there to persuade them?—Quite so; the object of these planks is to make the whole structure firm and secure.

4286. There was a suggestion made in connexion with the gangway that the top should be covered over so as to prevent the beating of animals, but with similar sort of planks on one side, and rails on that side so that the cattle might, instead of being beaten, be

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goaded on?—We have that; there is a plank from the side of the gangway on to the ship's deck, and the men stand on this plank as well as on those, and persuade the animals to go on board the vessel.

4287. So that you have that already?—We have that.

4288. One of the points of this witness's proposal was that the persuasion should not be done with beating by heavy sticks, but by means of goading?—On our ships it is not done with sticks; but, in fact, if our people were to cruelly treat the cattle they would very soon be dealt with by the officials; they would not be permitted to do it.

4289. Might I ask if this arrangement is general, so far as your experience goes?—I do not think that the other lines of steamers, the opposition lines, take the same trouble as we do.

4290. What arrangements have you at the other ends?—Very similar.

4291. Do you ship to Holyhead?—No, only to Liverpool; but I am familiar with the unloading at Liverpool, and the arrangements there are of a similar nature. In Liverpool the great bulk of the cattle are landed on the landing stage where the gangway is a very short one, and is always level; the incline is from the stage to the roadway and in the Clarence Dock, where our animals are landed, the gangway is not nearly so steep, and the unloading is nearly always at high water. On that point, Captain Bell, our marine superintendent, is here, and will be able to give any details as regards the landing.

4292. You consider that your company and other companies have, as a whole, co-operated with the officials of the Irish Privy Council in carrying out the rules laid down?—On that point I may appeal to the head of the department, whom I see on your left, and I think that the London and North-Western Company and my company, and the companies who are members of the association, have loyally co-operated in every way.

4293. Do you think that the official regulations are so strictly enforced that any infraction would be followed by punishment?—If our views were different and we wished to evade the orders of the Privy Council, it would not be tolerated for 12 hours.

4294. You have read the evidence of several of the witnesses, and you have told us what you think as to the alleged neglect of the regulations of the Irish Privy Council, but you could tell us now what you consider as to the suggestions of animals being fed and rested?—Will you permit me, sir, to refer to a point in paragraph 18 of my statement; it is a statement raising that very point. On page 5 of the Report of the Royal Society for the Prevention of Cruelty to Animals, they say that "the cattle leave home largely on the afternoon or evening before the day of shipment. The transit is first by road to the nearest railway, then by cattle train to the port; and next, after examination, branding, and loading, by the cross-channel boat; and after discharge, by road or rail to final destination. They have thus frequently gone 20 to 24 hours without food at the time they are driven on the boats, when the longest and most trying part of the journey is about to commence." That is altogether wrong; there is no foundation for it. The fact of the case is this, that animals that arrive in Dublin late at night or early in the morning are shipped the next day; they are invariably fed; I know that. On Saturday morning we always have an early boat, and all the cattle coming over-night or early in the morning are taken by their owners, and they are fed at the lairs or at our yard.

4295. Are you speaking from personal knowledge?—I am speaking from personal knowledge; the treatment alleged does not take place; owners would not be so foolish as to injure their live stock.

4296. The feeding of the animals is at the owner's risk?—Except in certain cases. I know that in our shipping yard, if they were in our yard over-night and were not fed, I have no hesitation in saying that our people would feed them; they would not ship them in a starving condition, if the owners were with them. I know that the cattle arriving over-night in Dublin are fed. The feeding of the cattle that arrive during the day is a matter for the owners; but the matter of the transit, if it is not in excess of the time, cattle leave in the afternoon and are shipped the same evening by our vessels; and if the

owners like to feed them they can, but it is a matter entirely for them.

4297. What is the average duration of the voyage?—About 11 to 12 hours.

4298. That is to Liverpool?—To Liverpool.

4299. What other ports do you go to?—We very occasionally carry cattle to Belfast, the voyage is about the same. But there is no cattle trade, I may say, to Belfast by our vessels; but the average voyage to Liverpool is from 11 to 12 hours, according to the weather.

4300. You have prepared a return showing the quantities of live stock carried by the company during the last three years in casualties which have occurred; will you please let us have the result?—I take the total number of cattle carried in the three years 1891, 1892, and 1893, and the casualties, including the storm of last November, would be 1 in 2,582 killed, and 1 in 2,131 injured. I will give those figures in detail afterwards. But if I omit the number injured on the three days in November last, the 16th, 17th, and 18th it comes out one animal killed in 5,745, and one animal injured in 7,067.

4301. Would you include an animal that landed weak as injured?—Yes, the animal that landed weak or had to be carted or showed bruises on arriving.

4302. These witnesses have given us statistics of injury so very much in excess of what you mentioned that I should like to know exactly what you are referring to, so that the same word may not be used to indicate two different classes of injury?—What I mean is this, having read the evidence, I state for my company that the details I give show the actual particulars, and they correspond with the statements made of injuries. Where they say the injury is 50 per cent., I am prepared to say that the injuries are what I mentioned and not more.

4303. That includes, I presume, injuries that show after death such as bruises and so on?—I include all injuries. We find by experience that even we may have a claim in cases after an animal has left our hands. We pay claims after delivery in apparent good order, though the claim may be made afterwards, we pay it; we take the owner's word for it, we have no other way of acting. But I should like that to be clearly understood. I can give the actual numbers if the Committee will not think me too tedious. In 1891 we had 22 cattle landed dead out of the total number, and we had 15 weak and injured of sheep and lambs; I do not know whether the Committee care to go into that detail, 29 dead and one weak and injured. In 1892, 13 cattle landed dead; 11 weak and injured. In 1893—in these, now, I include the casualties of the three days of the storm, which, as I mentioned, was a wholly abnormal state of things—we had 69 dead out of the total number of vessels, the particulars I give later on; and 100 weak or injured. Now, if I deduct from those numbers the animals killed or injured during the storm it would bring out a total for the year, even a better average than the previous year—10 dead and 12 weak or injured.

4304. Would you give the number of claims sent in?—I have a number of claims in gross and the amount we paid. For 1891 on through rate cattle we paid 71*l.* 2*s.* 3*d.*; on local cattle we paid 12*l.* 3*s.* 1*d.*; in 1892 we paid 8*l.* on through cattle, and 38*l.* 14*s.* 2*d.* on local cattle. I will give the claims paid in 1892 in two parts if you will permit me. It was a very stormy season the end of 1893. We paid 17*l.* on through rate cattle and 150*l.* 14*s.* on local cattle. The claims arising out of the storms on the 16th, 17th, and 18th, were 53*l.*

4305. (Mr. P. Smith.) You have got claims made as well as claims paid?—We had a few, in the case of November we had one claim for owner's risk cattle, but only one.

4306. (Chairman.) I was just going to ask whether you would have claims to meet in respect of cattle injured at owner's risk?—Such things happen occasionally, and they are settled.

4307. As a rule, would you consider that, having contracted to take the risk, they had no claim?—I would not go quite to that length. My experience of shippers is, that if they think there has been any neglect they make a claim whether at owner's risk or not. In the case of the "Mayo," we had no claims from the owners for the animals carried at owner's

risk except one, and the greater part of the cattle were carried at ordinary rates, which includes all risk.

4308. You may think that it is a matter which concerns the owners only, but if the owners can give you notice before debarkation you think it would be an advantage to enable the cattle to be fed and rested?—I think it would be a convenience. I know our shipping people are often quite in the dark until the last moment. I give a case. On the 5th August last, for some reason, I never heard it explained, there was an abnormal export of cattle and sheep, particularly sheep from Ireland; and at the outside we should have expected to want five boats, but, as a matter of fact, at 3 o'clock in afternoon the trains came in so rapidly, without any notice, that our people found they wanted seven boats. The actual amount of cattle that our company had to carry that day was over 2,000, and over 6,000 sheep and lambs. We had to sail a boat on Sunday, but we carried them all. It would have been a very great advantage to us if we had known on Friday that these cattle were in, because we should have had sufficient boats ready and shipped the cattle on the Saturday night.

4309. Will you give us your views as to the case of the "Blackrock" disaster?—My view on the "Blackrock" is that being a steamer built as a fast passenger boat as well as for carrying cattle, I should not call her a satisfactory cattle boat, but on that day when she went to sea she was loaded on the top deck. I saw the vessel myself, and I must say that considering the wind blowing, it was a very risky thing to put sheep on the top deck, and there is no doubt that in the case of a vessel like the "Blackrock," which is a flush decked all through, carrying boats on davits on deck, and with a beam wind, to put a load of sheep on her upper deck, was a very unwise proceeding.

4310. Have the Privy Council or Board of Trade any rules to prevent the occurrence of such an unsafe loading?—I am unable to say that, but I only know that such a thing to my knowledge has never occurred.

4311. I merely ask for information whether the Board of Trade's rules or the Privy Council's rules would prevent this sort of loading that you consider dangerous?—There is no doubt that the Board of Trade had full authority, if they thought it improperly loaded, to detail the vessel.

4312. You do not happen to know whether the Board of Trade had their attention called to it?—I am not able to say.

4313. The "Blackrock" is not a vessel belonging to your company?—No; I put that on the notes, because it was alleged that it belonged to us. It does not belong to us.

4314. You had a vessel in the same storm?—We had two ships in the storm. I only mentioned one, because the other being a cargo vessel it might be alleged it was not sailed exactly under the same conditions, having a cargo in her hold; but we sailed the "Leitrim" with cattle only. I had a conference with the captain before she went to sea, as I am in the habit of doing, and he said then, as he says still, there was nothing exceptional in the weather. We frequently have as violent gales as on that night.

4315. What number of cattle did the "Leitrim" carry?—I have all particulars; the "Leitrim" had 237 cattle, 71 sheep, and 257 pigs.

4316. What do you say was the loss?—The "Leitrim" had one cow landed dead, one landed in a weak state, and five pigs dead.

4317. Before we leave the "Blackrock," it has been asserted, to a certain extent at all events, that it was due to the insufficiency of fittings, which gave way and allowed the cattle to be thrown over to the lee side, through the vessel getting a lurch?—I can say nothing about what happened on board the "Blackrock."

4318. Do you think that the fittings prescribed are of sufficient strength to guard against giving way under exceptionally heavy weather?—I am satisfied that they are with our vessels. I never knew but one case, excepting the "Mayo." I examined those boards, and they were perfectly sound. But a contingency like the night of the 17th November, and the morning of the 18th, where the fittings in this case did give way, it was wholly exceptional. There was a hurricane, and our captains say that they never experienced such weather in those latitudes.

4319. Your contention is with respect to all the vessels in that hurricane that no amount of official pre-

caution could be taken to prevent the possibility of danger to human life and limb, so that it is impossible for the safety of cattle to be better provided for?—Precisely. I hope I have made it clear that the storm that our vessel was in commenced after the "Blackrock" had arrived in Liverpool. I have full particulars of it, and I made a note on the subject, and I would rather like to put it in. It is taken from the official return as recorded by the anemograph at Holyhead, and checked by the ships' logs.

4320. Give us the gist of it, please?—"On Thursday, 16th November, a fresh southerly gale began to blow about 1 p.m., and blew south, strong gale until 3 a.m. On the 17th, when weather began to moderate, and it blew fresh to moderate gale until 7 p.m.; at 9 a.m. on 17th, the wind veered to the west; at 5 o'clock the wind was west"; that is the time our "Mayo" started, and it was fair to go to sea to Liverpool then. "By 1 a.m. on 18th it was more than a whole gale, the wind increased in intensity, and then it became a storm approaching a hurricane. It kept on increasing in violence up to 11 a.m. on 18th, when it was blowing a hurricane. The worst of the storm was between 1 a.m. on Saturday, 18th, and 2 p.m. on same day, when the weather moderated somewhat, but did not blow less than a gale until 2 p.m. on Monday, 20th, when the wind became a moderate gale." The only vessel really exposed to the force of that gale was the "Mayo," which was exposed to the whole of it, the "Galway" was exposed to part of it; no other cattle vessel was exposed to it.

4321. With regard to what has been said about the evils of railway companies and steamship companies being allowed to contract themselves out of their liability, you say that the regular lines of steamers trading from Dublin to England and the railway companies do not contract themselves out of their liability as common carriers, and have not done so since 1878, when a decision of the House of Lords rendered such a course illegal?—That is so.

4322. And you say that all live stock entered at through rates or local rates by the regular lines of steamers working in connexion with the railways are carried at ordinary rates without any contract to exempt the carrying company from its legal liability as a carrier?—That is the case.

4323. That is to say that only sea carriers, who still contract themselves out of liability, are the lines of steamers that run in opposition to the regular lines?—That, I believe is so.

4324. Then do you mean to say that in your trade between Dublin and England, where you have no chance of being connected with a railway company, you pursue that course?—We do. We are free, and the law does not touch us. We can contract ourselves out of liability if we choose to, but we do not do so, and the cattle of any local shipper in the absence of any special risk are shipped at the risk of the company.

4325. Are there special arrangements made? One witness has sent a note giving different terms?—Quite so. If an owner chooses to get a reduction of rate, and signs a risk note, the cattle will be carried 9d. per head less; then the company do not take the risk in that case.

4326. Could you inform us what number of cattle is shipped at this high rate, which includes your risk and those shipped at the lower rate?—The larger proportion were carried at owner's risk. In stormy weather there is no doubt they take more at the risk of the company; I think that is generally the way that owners do. If it is blowing a gale they send the cattle at the ordinary rates.

4327. (Mr. P. Smith.) What do the ordinary rates cover?—They cover all risk, and I attribute that to our having had so many claims to pay last November, because the owners saw that it was blowing, and they did not like to take the risk.

4328. (Chairman.) In average weather they are carried at the owner's risk?—To a very great extent.

4329. But the same care is taken, and the same expedition used at that lower rate as when the cattle are sent at the ordinary rate?—That is the case. I would like to point out this. A carrying company, especially exposed to a very severe competition like ours, if the cattle were not carried at a low rate, the people would not ship them. It is in the interests of the company to carry them satisfactorily and well, and on policy grounds we have paid claims frequently on

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cattle carried at owner's risk, and, indeed, when any kind of exceptions could be made, those claims have been settled. I notice that our shippers did not complain of us. We want to do the work satisfactorily, and I think we do.

4330. You say that a rebate on Wednesdays used to be allowed to certain large graziers to induce them to ship their cattle that day, and so relieve the press on Friday and Saturday, but that is not availed of. Have you discontinued that rebate?—No, we are allowing another rebate, but for years past it was a mere bagatelle, in fact only one or two shippers availed themselves of it, and I attribute that to the fact that they were carried so well on Fridays and Saturdays that they did not think it worth while to do it for the sake of the rebate. It would be a very great benefit to us if we could ship them on a Wednesday, because the same vessel could sail again on Friday very easily, and it would be much better to ship on Wednesday, we should prefer it.

4331. You ship a large number of cattle on Saturdays?—We ship a large number on Saturdays.

4332. And then they arrive in Liverpool on Sundays?—Yes.

4333. And this shipping of cattle on Fridays and Saturdays gives rise to detentions and unnecessary delay in Dublin, is that so?—There are special trains, but the reason why all cattle arrive in Liverpool on Sundays so much is that the Liverpool market is on Monday, and the practice is for cattle to be brought to Liverpool market, and if not sold there they are sent on by rail to Manchester and sold there on Tuesday morning. But the main reason for the shipping of cattle on the Saturday to Liverpool being so large is the market on Monday.

4334. A very important practical point has been brought to our notice, as to the alleged deterioration of the cattle shipped from Ireland through injuries received in transit. The deterioration has been variously stated to be from 10s. to 5l. a head?—I cannot understand it. There is no ground for it, as far as our ships are concerned, and it is not the case. My reason for saying so is this. If a man saves 9d. by taking the entire risk on himself it is perfectly obvious, if he loses from 5l. to 10s. per head, that he would not continue to do so, and the fact of the large proportion of cattle being carried at the risk of the owners satisfied me that those injuries did not happen.

4335. That, of course, is a matter of deduction; on that point you contravene the statement of the deterioration on the ground that self interest would prevent the owners doing it?—That is only one ground. I say, if the cattle were deteriorated, we should have claims made, and the animals would not continue to be sent at the reduced freight. If animals carried at owner's risk were damaged to the extent of 5l. per head, I know that we should be asked to pay for them.

4336. What is the rate between Dublin and Liverpool; is it 7s. 9d.?—That is the ordinary rate; we do not get that now.

4337. What is the general rate?—The rate has not been altered, but in these times of opposition to maintain our ground we have to give a large drawback off to our regular shippers, which we do.

4338. And 9d. less at owner's risk?—9d. less at owner's risk. The rates used to be considerably higher than that; they were very much higher than that; they were 9s.

4339. There has been a change since October in the matter of inspecting the shipping of cattle which arrived in Dublin after sunset, will you explain that?—Until last October the Privy Council did not allow inspection after sunset, and the consequence was, in the winter months, cattle arriving in Dublin after 4 o'clock had to be kept there for that night, and the shippers complained very much of it, and there was a great deal of pressure put on, the Privy Council had reasons of their own for not having first agreed to make a change, but we were ready to carry out the arrangement whenever the Privy Council approved, and since October last cattle can be inspected up to half-past 8 o'clock; the result was that the whole of the last busy cattle season I do not know of a single case of cattle being left behind, and the shippers were greatly pleased, and a new trade has been developed. There was a line of railway coming into Dublin which formerly carried very little stock on Saturdays, they went by another part, but since

this inspection of the cattle has been allowed, they come to Dublin and get away the same night, and the shippers express themselves well satisfied, and the cattle arrive in good condition otherwise their owners would not be pleased. We have not had claims. But the point that I make is, that up to last year cattle arriving in Dublin after half-past four in November and December had to be fed and rested, and the owners did not like it.

4340. You say that you have frequently met the Cattle Trade association, who advocated that you should take charge of the cattle landed from the railways, but you do not think that is practicable?—I do not think that is. There is no doubt that owing to the facilities, more cattle come up by rail without men in charge than used to, and I feel no doubt the reason is that owners are very well satisfied with the work done, and they save themselves a little trouble and expense.

4341. They consign their cattle to some one who looks after them, and there is no reason why that should be altered, you think?—There is no reason why it should be altered.

4342. And during the last 12 months, you say, it has frequently happened that the owners have declined to pay the railway companies in England feeding and delivery charges, which have been included. You think if there were any compulsory feeding and delivery charges imposed, that they would refuse to pay?—I have no doubt of it.

4343. The gangway is the next thing. You have told us very fully about that, have you not?—Perhaps there is one thing that I ought to have stated.

4344. Do you wish to make some further explanation about the gangways?—Yes. When the cattle are being loaded on the steep gangway at the extreme inclination, the men shipping are always careful to keep animals in the gangway, so that all animals coming get a lead, and so long as there are cattle in the gangway there is no difficulty. The last animal is not let out of the gangway until the next comes in, and there is always a lead, and there is no forcing of the animals required, for they follow one another.

4345. At what rate do you ship?—At level water about 200 beasts an hour; at extreme states of the tide it is done more slowly, and would take 50 per cent. more time, I think.

4346. As to the care of cattle on board ship, it has been suggested that there should be numerous servants, specially for taking care of the cattle. What have you to say on that?—I do not agree in that. At present owners send their men in charge of cattle, and all cattle shipped at ordinary rates we put men in charge of them, but if it were necessary to put a man in charge of 30 beasts, as some of the witnesses say, it would be quite impracticable, and the expense would be enormous.

4347. You would put men in charge of the cattle. Have you any rule as to the proportion of men?—I cannot say the exact number, but there would be a proportion, I should think, of one man to each hold, would be the usual thing, if the hold was full of cattle, at ordinary rate.

4348. How many men would you consider the proper number for one of your vessels?—Take an average number in the holds. Our holds would take from 50 to 60 beasts a piece, and perhaps one man to each hold would be about the proportion.

4349. You have cattlemen of your own?—We put men in charge when the animals are sent at company's risk for the ordinary rate; but we have no cattlemen in our employment getting weekly wages.

4350. Who pays them?—We pay them at the ordinary rates.

4351. Is that an extra charge?—That is included in the ordinary rate of 7s. 9d.

4352. But you think that the right course is for the owners and their men to see after the cattle themselves, and it is the practice of large shippers to do so?—Yes.

4353. And it has been complained of you when that is done, the men sent are of little use, and are not allowed to do what they think best?—That is not so; they are the regular men who go week after week.

4354. Taking your own suggestion, that the owners should send their own men to look after them, it has been objected to, and we have been told by men who have done so, that their men have not been allowed to be of

any use to the cattle. There would be no impediment offered to them, I take it, in your company?—On the contrary, every assistance is given. The beast gets down. The officer sends seamen down to help to get the beast up, and the owner's men are assisted in every way.

4355. Do you charge for the passage of these men?—No.

4356. You allow men sent in charge of cattle a free passage?—There is a special cabin for the dealers, and as many caretakers as are required we give free passages also. A man says "I want to go myself, and two men," and he gets three tickets; there is no limit.

4357. The practical objection is that you have a great fluctuation in the number of cattle, and so on, that you send on different days, and that consequently, though a number of cattlemen would be quite sufficient for one day, they would be quite sufficient for another day?—We send from one to six or seven boats, and if on an ordinary day, an average number would be 300 head of cattle, and at the rate of one to 30 beasts, of course, that would be 10 caretakers. We have had before now 3,000 head of cattle in one day, and we should want 100 caretakers.

4358. I come to another point very analogous to the gangways. You say the angles of the walking-down stage to the hold are stated to be very steep. What angles are you referring to?—I have had them all measured accurately, and the angle is, taking it all round, about 30 degrees.

4359. And the height from the incline to the combing is what?—Between five and six feet.

4360. So that animals would not strike their backs?—It would be impossible. All our vessels have been approved by the War Office for horses, and I need not say where a horse can go with safety, a cow can follow.

4361. You consider that the fore and aft battens are all that are required to keep the cattle safe?—I do say so.

4362. In the Irish Channel you consider that the proper way to stow cattle is thwart ship?—In the Channel, if there is a southerly or northerly gale, the vessel rolls, and the rolling motion would be more than the pitching motion; the vessel going with a head or following wind, often blowing very strong, the motion in the vessel is comparatively small.

4363. You disagree with the opinion that has been expressed, that cattle would be better cared for with their heads turned inwards?—I think that the cattle with their heads to the side of the ship is the right way. That is the result of experience.

4364. You think that an alley-way would be wholly unnecessary for either caretaker or feeding purposes?—I do.

4365. Will you please explain that. What has been put before us is, that the cattle men cannot get at the cattle if they get down without climbing over the beasts' backs; and they argue that it is necessary to have alley-ways?—The fact is, that we know by experience, if there is a beast gets down there is no difficulty about getting at it, and arrangements are made that when a beast gets down in the lower hold that it is brought up on deck, and there is no difficulty about doing it.

4366. Can you tell us how it is done?—The steam winch is rigged, and a sling is put round the animal which is drawn to the hatchway and lifted up to the deck.

4367. How do the men get at it?—They get at it through the pens; there is plenty of room.

4368. Then you are opposed to the idea of making provision for feeding or watering animals on board?—I say it is wholly unnecessary in the case of our vessels. To exceed 24 hours, the limited time that I understand animals could go without food, hardly ever happens. There have been four cases of long fasts in the last 20 years, and on these few occasions the animals did not suffer in the least.

4369. In your vessels the hatches are always kept open?—Always.

4370. Is that the general practice all through the steamship companies?—I could not speak from actual knowledge, but I believe that screw vessels in heavy weather have to batten down the hatches.

4371. But you think that the keeping open of the hatches is a good system of ventilation?—We have a

very complete system of ventilation, an arrangement which acts automatically.

4372. Do you mean windsails?—We have windsails, too; and as the temperature rises in the hold the downcast works more or less.

4373. Have you good mechanical ventilation?—No.

4374. What is your idea of it?—I should not approve of it, because I know that when the ship is in a heavy seaway the mechanical arrangement might not work, and I think the automatic system is the best.

4375. I think it was applied in one of your vessels?—We have not fitted up anything of the kind.

4376. You think that the mechanical ventilation would often cause an undue draught?—I do think so.

4377. It has been alleged that cattle are embarked long before the vessel sails. Have you ever been in the holds of your vessels?—Yes.

4378. How have you found the ventilation?—When the vessel is at rest there is a remarkably strong draught goes down the hold.

4379. Your experience is, that where the vessels have been detained at anchor or in port for an undue period, the cattle have not suffered?—That is my experience, and one very remarkable instance I saw of it myself.

4380. And that was when?—It was some years ago. We sailed five boats from Dublin on a Saturday, and our porters in Liverpool thought proper to strike work, and the result was when the vessels arrived we had only a few hands to unload, when the vessels arrived at Liverpool. They all arrived in Liverpool on Sunday forenoon. I was there myself all day, and the last two ships were not discharged until half-past 6 in the evening. I was in the hold myself, and Captain Bell, our superintendent, was with me, and we had to see after everything personally. The animals came out of that all right, and we had not a single claim. This satisfied me that our ventilation, when the vessel was at rest, was right.

4381. To sum up, you believe that the system of transit is a good one, and that no fresh legislation is required?—That is my opinion.

4382. And you think that any fresh legislation will impose charges on the shippers which, in the present state of the shipping, would be disastrous?—At the present moment there is no profit.

4383. And your company is not able to declare a dividend for last year?—We have not done so.

4384. You do not think that the Butchers' Association would be willing to pay higher rates for better accommodation?—They will not pay existing rates; they are not paying them at present. The opposition has been mainly supported, I believe, by members of the Butchers' Association; cattle have been carried as low as half a crown a head.

4385. The allegation that has been made to us is, that in what you call the opposition the accommodation was very bad, and the treatment of cattle bad?—I cannot speak as to the treatment, but I know from what cargoes they have been carrying that certainly until the storm of last November, I think, the vessels were remarkably full.

4386. That is a point you probably would be able to speak about without any feeling of delicacy; they were very much crowded, you say?—I do not like to speak about that; I have not seen the vessel leaving. I presume that the Privy Council exercises the same discretion on the south side as they do on the north side of the river.

4387. There are no restrictions as to the number of cattle you can carry on board, provided you can get them in?—I know this, that if a vessel were crowded on our side of the river the authorities would interfere.

4388. Which authorities, the police or the veterinary inspectors?—I have known a question arise as to the number of animals put into a pen, and the thing was rectified.

4389. Would you tell us which authority, the police or the veterinary inspectors?—The police are standing by the gangway, and they act for the Privy Council.

4390. Then you consider that the statements of the Liverpool Branch of the Society for the Prevention of Cruelty to Animals are unsupported by any facts in

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your knowledge, and they are contrary to the facts?—I have no hesitation in saying that having read these statements carefully, as far as my company and the North-Western Company are concerned, there is no foundation for them.

4391. (*Sir William Kaye.*) As regards the "Blackrock." The "Blackrock" is right at the opposite side of the river from you?—Her berth is opposite ours.

4392. You know, of course, that the regulations in force as regards the Privy Council apply to the south side as well as to the north side of the river?—Yes.

4393. And the officers are on both sides?—I endeavoured to make that clear, and that is the answer I intended to give to Sir Charles Cameron. I have no doubt there is the same strictness on both sides.

4394. Have you known any cases in which cattle could not be shipped in consequence of the vessel not being in proper condition?—I cannot say from experience, because I have never known our vessels otherwise than in proper condition.

4395. You consider the present system of transit sufficient?—I do.

4396. Is that the opinion of the Irish Steamship Association?—Yes.

4397. Have they had meetings to consider the matter?—Several meetings.

4398. Have you passed a resolution?—We came to the unanimous conclusion that the regulations were sufficient, and that they were carried out.

4399. And it is at their instance that you have come here?—Yes.

4400. You say that the angle of the gangway of 30 degrees is only in the case of the extreme state of tide?—At low water spring tides. I had it accurately taken last Saturday evening.

4401. How often does that occur?—About once a fortnight.

4402. When the gangway is at that angle, is there any difficulty in loading the vessel, according to the plan that you describe, always keeping some cattle in the gangway till the whole lot have been got through?—The only difference is that it is lower; we always should load the cattle at high water if the cattle were in good time; at spring tides we should endeavour to have several vessels loaded before low water, and not at low water, because the loading would be more rapid.

4403. As far as the animals are concerned, they do not suffer more upon that occasion than upon any other?—Certainly not.

4404. Is the electric light being applied to your vessels?—As each new vessel is built we have had the electric light in the hold.

4405. (*Mr. Watson.*) There have been a great many statements made with reference to the frequent cruelty and ill-usage of cattle on board the boats. Do you know of any such cases?—As far as we are concerned there is no foundation for it.

4406. And also with reference to the very large number of cattle trampled on, on board?—With the exception of the storm of last November, when the cattle broke loose, such a thing is of very rare occurrence, as the details I have already given, I think, show.

4407. Does it make any difference with regard to the injury where the cattle are placed in the ship, whether on the deck, the 'tween decks, or the lower holds?—They are carried equally safely everywhere, and it is a remarkable thing in the case of the "Mayo" last November one shipper lost 17, and they were carried on deck.

4408. You described that when a beast requires to be put on deck in a helpless condition, it can be moved towards the gangway, so as to get it upon deck by means of a steam purchase?—Yes.

4409. Would you consider that an alley-way would help that being done?—I do not think it would be of the slightest assistance. The animal could not be dragged along the alley-way, and the shifting boards must be taken down just as at present.

4410. Whether there was an alley-way or not?—It would make no difference if the animal were in the fore part, and had to be moved, the shifting boards would have to be taken down. It would be a cruel thing to drag an animal along an alley-way.

4411. You do not think it feasible?—I think it would be very cruel.

4412. The shifting boards would be required to be taken down for the animal to be taken out, whether there was an alley-way or not?—That is my opinion.

4413. As to the allegation that the detention arose from contracting out, is there any difference in the spirit with which cattle are taken, whether at the ordinary risk rate, or at the owner's risk rate?—None whatever.

4414. What meaning do you attach to the allegation that the detention arises from contracting out?—It was a hearsay statement, the witness did not say it of his own knowledge, but I am able to say that when animals come to Dublin we are anxious to ship them as rapidly as possible, and such a thing as detention from contracting out is all nonsense. As I have said, there is no contracting out.

4415. Has there been a demand for food and water on board any vessels?—I have not heard of it. From what I know of the trade I believe that the shippers would not wish their cattle to be fed for 24 hours after arrival for killing. That is, I do not say it of my own knowledge, but I have always understood that an animal is much better without food and water for 24 hours previously to being killed.

4416. It is also stated that a trimming or hospital pen is necessary on board ship. Are such things provided?—We have always trimming pens fore and aft.

4417. Is that so in every well regulated cattle-carrying ship?—Speaking for the North-Western as well as our own, we always have, but I cannot speak of independent lines—opposition lines.

4418. There was a statement made that it would be well if cattle were landed in a lighter, so as to avoid the steep stages altogether?—It would not be much better to have the cattle twice shifted, if, indeed, the plan were feasible, which I greatly doubt; but in Liverpool—Captain Bell will give more evidence—at the extremest low tide the angle of the Princes' Stage is only 33 degrees, I understood.

4419. With reference to the position of cattle on board ship, you think that it is best that they should be tied to the ship's side?—I do.

4420. There were several suggestions to the effect that the direction of the cattle should be altered according to the weather; that is, tied fore and aft when the ship was pitching, and 'thwart ships when she was rolling, and another mode was, that the heads and tails of the cattle in the same pen should be placed alternatively?—The first would be impossible. Take the case where the wind changes very rapidly. In the case of the storm of the 18th November last, on that assumption the cattle in the "Mayo" ought to have been all tied up fore and aft, and at 10 o'clock at night, when the hurricane came on, the whole of the ship's crew should be turning them the other way. It could not have been done.

4421. Have you any opinion as regards the number of beasts in any one pen?—It depends upon the size of the animal; and I think that the carrying companies, in their own interests, would not put too many animals in the pen. There is no doubt—and I speak from actual knowledge—even in the case of animals carried at the risk of the owner, that the owner would be certain to make a claim if they had been overcrowded at starting.

4422. I rather mean, apart from that, supposing there was a large number of animals in bad weather, would there be less injured if the number in the pens were fewer?—I think the size of the present pens has been considered by the authorities, and experience shows that they are right. I refer to the number of injuries, and that proves it.

4423. As regards the shipment of beasts which, from want of rest or other causes are not in a proper state to ship, do the Privy Council officers in Ireland allow such to be shipped?—They would not in our vessels, and I am sure they would not in others. I speak from what I know.

4424. You can give an instance?—One day last summer—I referred to the case before—an animal was tired and slipped down. This was on a Saturday. That night, when there was a heavy shipment, that animal was kept in Dublin at livery, and it stayed there for the rest of the night. Expecting the animal

would be all right the following day, it walked to the gangway, and our people would have shipped it, but the officer said that he would not allow it to be shipped, although our people would not have hesitated to ship it; and the result was that the animal was stopped, and the officer was, no doubt, quite right, for the beast had eventually to be slaughtered. The owner was most indignant with the company, and commenced an action, and he finally discontinued that action, but the result has been that he said he would never send another beast with us, although we offered to make him an allowance, and the animal had been carried at his own risk.

4425. That was the action of the Privy Council?—Yes, which I think was shown to be right, because the animal got stopped, and instead of improving on Monday as expected it was sent to be slaughtered.

4426. As regards the risk, all the liability covered by the ordinary rate is that governed by any clause that the animals, if they walk ashore alive, are to be exempt from any payment?—Not by our line.

4427. What does it cover?—It covers all risk.

4428. Another small point was raised, that animals were liable to get their legs down in the scuppers, or get their legs down in the shifting boards, is that possible?—It is not possible. In the case of our scuppers they are covered with grating, and there are pieces of timber with apertures at the sides over the gratings, so it would be utterly impossible for the animals' feet to get down there.

4429. And as regards the evidence of injury for which no claims are made, you have no reason to believe that such injuries exist, that claims would be made if injuries were discovered by butchers and others after the animals had reached their vans?—We have frequently had to pay claims for beasts, and we have to take the word of the owner that the animal was bruised.

4430. Upon whom does the loss fall, in the case of injuries that are not paid by the company?—On the exporters. Of course, a case might arise. I can easily understand that it would be possible for a butcher to buy a bruised beast; but that butcher, from what I know of them, would complain, and I have no doubt that the owner would make it known to the dealer that he would not get sale for his cattle the following week. If the animal is injured it falls upon the shipper, and the shipper comes on the company.

4431. If it was necessary to have a different way from the present, so that the freight would be considerably increased, do you think the exporter or dealer would pay such extra rate?—I know that he would not.

4432. I gather that you are influenced in that opinion by what you say, that they do not pay the 9d. even to cover the ordinary risk?—That is one of my reasons, and, of course, also that so many of the main supporters of the opposition line have been butchers. I believe nearly all the cattle lost on the "Black-rock" belonged to butchers.

4433. And that they go by these lines with the view of getting reduced freights, not paying more for increased accommodation?—Yes, and I should like to mention that in this case the butcher is the shipper, and that therefore his interest is evidently the same as the shippers, and I am quite satisfied that if those enormous losses took place they would not ship at these low rates, it would not pay them.

4434. As regards the question of rates being paid by the carrying companies, I presume that litigation would arise between the owners and the companies; is there much litigation between the owners and the companies?—There is not much. I think legal rights are pretty well understood, and from experience of those cases, if it is a question for the jury, there is no use going to the court, and claims are invariably settled; unless there is some legal claim involved there is no use going to court.

4435. Have owners of stock, or others connected with the trade, also made suggestions to you?—Not very often, but any little suggestion that has been made we should always be pleased to carry out. I think Mr. Davies mentioned a small thing of the kind, and it was done. I made inquiries after perusing his evidence; it was a small suggestion, and a carpenter was sent at once.

He suggested the rounding off of parts of the gangways.

4436. But your own impression is that the companies are willing and anxious to carry out improvements if pointed out to them?—There is no doubt about it.

4437. After an ordinary storm, is the loss very heavy?—We do not find it so. The only occasion that I remember a loss of any importance was that night of November last when the loss for us in the "Mayo," which was in a hurricane, was a very heavy one. Of course it was not anything like what it was in the other vessel.

4438. What was the force of the wind in that hurricane?—It was a hurricane 90 miles an hour.

4439. A wind blowing at the rate of 90 miles an hour?—90 miles an hour. I have examined our own journals, which I have in the room, and also the official return from the anemograph at Holyhead, and that registered 87, and our vessels gave it as "hurricane 90"; that is the same as a cyclone, tornado, or typhoon, and our oldest master said he had never been out in such weather. The captain of the "Mayo" told me that he had once been in similar weather in a sailing ship in the South Seas.

4440. You have described the walking down stages into the 'tween decks and hold, are they the same angles into the lower holds as the 'tween decks?—Yes, 30 degrees all through.

4441. Have you ever heard of beasts having the flesh skinned off their backs by taking the inside of the gangway to walk down?—I have no hesitation in saying that such a thing never arises so far as our ships are concerned.

4442. As regards the gangways that you describe, are those used by all the established companies in Dublin?—The London and North-Western Company have similar arrangements, they adopted them after we adopted them.

4443. Has that system of using planks placed on porter hogsheads and other temporary expedients, been abandoned?—As far as we are concerned, long ago. It used to be the system in old times.

4444. Is there anything to injure the sides of the beasts as they walk into the gangways?—Nothing. I feel that the Committee could form an opinion from that model, and that model is made to scale.

4445. As regards animals which show signs of weakening on landing at Liverpool, what does that weakness arise from?—My own impression is that an animal landing weak is probably over-driven in Ireland; an animal that reaches the gangway in sound condition, experience shows that it will be landed so. It is impossible to say what goes on at the fairs. This I cannot say of my own knowledge. I was once at a fair long ago, and the animals do get knocked about at the fairs.

4446. You could not speak of it from personal experience?—No.

4447. Have you seen Mr. Rooth's system, with india-rubber springs to prevent an animal injuring herself?—I have read his evidence; I have not seen the rubber springs.

4448. As to these hospital pens, what is the purpose of them, is it for animals falling on board?—If a sudden change of wind takes place the captain would order the animals to be moved to windward, so as to keep the ship up, to go against the list. Our captains would not go to sea without a trimming pen.

4449. Are they used in that case?—They would be. I would like to make an observation on that point if the chairman would allow me.

4450. What have you to say on that point?—There is one point, if I were allowed to express an opinion, where I think legislation is wanted. I think that people should be made criminally responsible for shipping springers, that is, cows in calf. I cannot think of anything more cruel than that system. The cow is more valuable with the calf, and they keep cows until they are just about to calve, and they send those animals across and by rail, and of course there is a jolting on the journey, and that, no doubt, brings the calving on, and I think there is frightful suffering caused to a poor beast when it calves on board.

4451. Why are cows sent in calf?—Because they are more valuable.

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4452. But those would be as store cattle—do you carry many of them?—They are brought occasionally. I think that the practice of sending cows in calf ought to be discontinued, and I wonder that the Humane Society that has so much to say about cruelty have not taken that up; and it is the opinion of the London and North-Western Company that the shipment of cows about to calve ought to be prohibited.

4453. (Mr. Watson.) Another question with reference to the different places on board for store cattle. Is there much selection as to whether they go on the decks or the lower part of the ship?—The practice with us is to try and oblige the customers as much as possible.

4454. One witness said that it was a sort of system of turns, that one got a particular place one week, and another place another?—As far as possible we try to oblige; we could not make a hard-and-fast rule of the kind, because it would depend upon the cattle arriving. It would be quite impossible to make such a rule as that.

4455. You referred to a case of cattle being a long time on board the vessel without food, what case was that?—I can only recollect four cases altogether, the case that I mentioned of the strike, and the cases of vessels having been at anchor in a fog.

4456. Was there much suffering?—I can say that the cattle were all landed in a good, fresh condition, and there were no claims.

4457. They were specific cases, and you are aware of the facts?—Yes; the first case that occurred happened in 1889; that was the first experience I had, and I must say that I did feel uneasy until I heard of the vessel's safe arrival, and I thought it was possible to have some injured, but we had none.

4458. There were none injured?—None.

4459. Now as to the other cases?—The case that I specially referred to, the first case I was speaking about, was on the 13th December 1889; the "Kildare" which started on the 13th at 9.30 p.m.; she was 21 hours and 15 minutes on the voyage; she had to anchor several times; the vessel was practically at anchor from 8.40 to shortly before the arrival at 6.45 p.m.

4460. (Chairman.) And you had the cattle on board how long?—Twenty-one hours and 15 minutes.

4461. (Mr. Watson.) As to the case of the "Mayo," was she properly trimmed at starting?—I am quite satisfied of that.

4462. Do you know that from your own knowledge?—She was quite properly trimmed, and she started with a fair wind.

4463. You say that you have not seen Mr. Rooth's proposed cattle pen, but I will explain it to you. It is practically a system of stalls for each two animals; could that be done or started without a large increase of cost?—It would be an enormous expense; it would be very much the same thing as if dealers' horses, now carried by rail in cattle trucks were carried at the same rates in horse boxes, to provide separate stalls for the cattle; the expense would be enormous.

4464. It would be like a divided horse box for all horses?—Yes.

4465. What is the rate for horses between Dublin and Liverpool?—The rate is 25s.

4466. What is the rate for dealers' horses?—As low as 10s. for ponies. If we got 25s. for cattle we might do a great deal more for them.

4467. (Chairman.) How are dealers' horses carried?—They are carried in pens.

4468. (Mr. P. Smith.) In the same pens as the cattle?—Yes.

4469. (Mr. Watson.) For the 25s. rate they are provided with stalls, are they not?—Yes, a separate space is made for each horse.

4470. (Chairman.) When carrying for 10s. they are put in sheds?—In cattle pens.

4471. (Mr. Watson.) With reference to the "Princess Alexandra," can you say anything?—I am not quite sure; there was a steamer that I know something about, it was a tramp steamer. What is the exact fact you wish to bring out?

4472. I was referring to to a steamer leaving Dublin not being properly fitted?—I do not know anything about it.

4473. Do cases often arise of animals having to be slaughtered on board?—Occasionally. It rests with the owner, if anything has happened to an animal to have it slaughtered. Most of those casualties that I refer to, at least a great many of them, arise from an animal being restless and plunging, and breaking her neck, but not from stress of weather.

4474. Can they be properly slaughtered on board?—Yes, the animal would have its throat cut, and the entrails would be taken out. If an animal dies on board a ship, and it is not bled and cleaned, the carcass is worth nothing practically when it arrives, but it makes a considerable difference if it is bled.

4475. Can the owner get assistance?—He always gets assistance; the steam winch would be used, and the animal would be hung up in the gangway. I have seen a ship arrive with an animal in that state on board.

4476. As regards loading, a statement was made that loading takes so long a time that it adds to the period during which the cattle are in the vessel. What does the loading depend upon?—Upon the stock being there; sometimes the owners themselves hang back, but there is no delay in shipping.

4477. Would it be possible that no stock should be on board more than a certain number of minutes or hours before starting?—It would be absolutely impossible. Our yard is often full of stock, and some of the owners refuse to ship until later in the day. We could not force them to do it, and it is in the interest of the company when loading begins to have it done as expeditiously as possible.

4478. Which boats do the dealers appear to prefer, screw or paddle boats?—I think paddle boats. I do not think they would go on screw boats unless they got their cattle carried at a lower rate.

4479. Are there not many good screw cattle carrying boats?—There are, but from Dublin there are two lines, but I do not think that the opposition lines, which are screw boats, are so well adapted for carrying cattle. In the storm of last November the screw vessels during the hurricane did not go to sea; they started, but came back.

4480. The company that you belong to—the City of Dublin Steam Packet Company—have been blamed for not using screws, so as to carry the cattle at lower rates than they have been doing?—We know that a screw steamer can be worked somewhat cheaper, and carry more cattle and cargo than a paddle steamer, but our trade being largely a cattle trade, we have adhered to paddle steamers for the purpose of maintaining our trade. We have been blamed by shareholders and others that we do not go into screws. We acted, as we think, for the best.

4481. With the object of securing the safe carriage of cattle?—Yes, the safe carriage of cattle. It would be very satisfactory to us if paddle steamers only were allowed to carry cattle, because we should get all the trade.

4482. But I presume from your evidence that the owners desire most of all rapid transit and low rates?—That is the case.

4483. And they do not appear to show much eagerness for largely increased rates, even with better accommodation?—Certainly not.

4484. Is the difference of 9d. between the ordinary rate and owner's risk rate a large amount of charge for insurance, or not?—I think it is a very moderate one, and my reason for saying so is, that I am aware that opposition companies who do contract themselves out of liability, pay considerably more. They are willing to insure, but I know that the insurance costs considerably more than the 9d. per head. The insurance company in Dublin, for example: if a man ships his cattle on a screw opposition boat, he will not insure those animals for 9d. per head, from which I infer that the 9d. rate we charge is a moderate one.

4485. One of the witnesses said that what prevented any improvement was the ring between all the companies in all the ports of Ireland, so that they were practically a monopoly?—There is no foundation for it. So far from a ring, there is the keenest competition.

4486. With reference to the statement made that great cruelty goes on on board the boats, especially at Liverpool, have you any evidence that cruelty takes place?—No. In fact I can assure the Committee that men

who are in the habit of handling cattle like our porters have become quite expert; they get to know them, and treat them kindly. There is no doubt about that. That is a point that Captain Bell, our Marine Superintendent, could give better details of than I can, and he is fully alive to it. I remember a short time ago (I did not think there was any truth in the charge), that one of our porters was summoned by one of the authorities for cruelty to a sheep at Dublin.

4487. By what authority?—The police, acting on behalf of the Privy Council. I do not think the charge was proved, because if I was aware of any of our men acting cruelly, I should discharge him.

4488. Another point of cruelty was mentioned, and no doubt exists, the marking of pigs with knives. Is that in any way connected with the carriage of pigs?—I believe that it is done, either before the animals start or during the journey, but I have no knowledge of it. It has nothing to do with the transit. We do not carry the pigs any differently because of the scoring.

4489. (*Chairman.*) Is it a general practice?—I have understood that they are scored with knives or a pair of scissors, but that has nothing to do with the carrying companies.

4490. (*Mr. Watson.*) With reference to the storm, you gave evidence that the storm in which the "Mayo" was was of very much greater severity than that in which the "Blackrock" was?—Yes.

4491. And the "Cavan" is reported as having had 20 or 30 dead cattle in her; do you know anything about that?—That is quite incorrect. It was a statement made by the Humane Society. I do not know where they got the information, they did not come to me for it, but the number of cattle the "Cavan" had killed that day was two; she had two cows killed.

4492. Two, not twenty?—Two, not twenty; and six were landed in a weak state. I should mention that the "Cavan" had a much better chance than the "Mayo," because she had only cattle on deck, and when the storm struck her she did not list so much as the "Mayo."

4493. And she had two killed?—Two only, and six landed in a weak state. The allegation made was that there was some enormous number.

4494. (*Mr. P. Smith.*) About the two rates; you have one for the conveyance of beasts at owner's risk, and another at ordinary risk?—Yes, the ordinary rate.

4495. The ordinary rate you call company's risk?—The ordinary rate covers all risk.

4496. The law, with regard to risk is, that railway companies cannot get out of the ordinary risk of carriers, whereas you can?—A Steam Packet Company could if it chose, but we do not. In the case of an animal booked by railway, of course the state of the law is the same, but we should be at liberty to ship cattle and contract out, but we do not do it.

4497. We have heard from some of the witnesses that the beasts in general are carried at owner's risk, and that many of the companies make an extravagant difference for the charge at owner's risk, and what you call ordinary rate?—As far as the companies are concerned, who are not members of the association, I have no knowledge. The difference is what I say.

4498. Are the rates of all the companies who are members of the association the same?—I speak of the London and North-Western, who trade to Holyhead, and their rates are the same as ours exactly.

4499. Are those the only two?—The other two trades in Liverpool are in opposition, and they are not members of the association.

4500. Can you say whether the rates are the same as yours?—They contract themselves out of all liability; they insure and contract themselves out of all liability.

4501. That is to say, they are bound to have two prices?—Those two companies are not bound.

4502. They are not bound?—No; if a railway company owns a steamer, and procures cattle for a steamer not belonging to a company, they are debarred from contracting, but an independent company is in a different position, and may.

4503. It has been suggested that in these companies a very large difference is made between owner's risk and company's risk?—Yes.

4504. And that the beasts are not treated so well in consequence?—Well, of course, I cannot speak as to

anything but what I know, but with reference to the injuries on board the "Blackrock," I am aware of this, that the animals were all sent at the risk of the owner. I know that is the case, there was no option. I cannot say what happens on board the opposition vessels.

4505. Then the suggestion has been made by a good many witnesses that the pens ought to be smaller. Do you think that is unnecessary?—I do. I think that the Board of Trade certify our ships, and that the sizes of the pens were arrived at by the authorities, who knew what they were doing, and the experience of years shows that that is right.

4506. But you are aware that on the Atlantic boats they have much smaller pens?—But the state of things is very different there, for the animals are on board ship for 10 days.

4507. Supposing you could get the extra expense found for you, would you think it of importance to have the pens; or supposing you got the freight increased by a proportionate sum, would you be in favour of smaller pens?—I think it would be disadvantageous. There is no doubt if the vessels were fitted with sails the loading and unloading would take a longer time.

4508. I am not suggesting sails, but pens for four or six beasts?—It would have the effect of delaying the vessel.

4509. So that, independently of expense, you would be against pens of that size?—Yes.

4510. Do you tie up the beasts?—Fat cattle always, light stores are not tied.

4511. In regard to ventilation, do you have mechanical ventilation, or do you trust to windsails?—No; a windsail is occasionally used if it is desired, but it is a system of ventilators from the hold. There are several ventilators for each hold; some always in the same position, and some turned to the wind.

4512. Supposing the wind were astern?—The ventilators would be facing the stern.

4513. Supposing that the wind was blowing as fast as the vessel?—In that case the temperature rises, and as the heat goes up the cold air must go down.

4514. So that even without a wind the ventilation is kept up?—Yes, in the case of a fog and a vessel at rest, that is the greatest test of ventilation, because in the fog the air is generally still.

4515. Then you gave an incident of a vessel lying at Liverpool, was there any ventilation there?—Yes, I took a fine day with very little wind, and the vessel made a very good passage.

4516. You are only speaking for your own company?—Yes.

4517. In your own company you do not consider that the beasts suffer from bad ventilation?—I know that they do not.

4518. In regard to the gangways that you have described, you are speaking of your own company and the London and North-Western?—Mainly.

4519. Can you say what the condition is with regard to other companies?—I have reason to know that the Glasgow Company trading from Dublin, who are members of the association have arrangements which are very similar to ours; but the Glasgow Company had not until quite recently, within the last week, got a deep water berth. Their gangway often, at low spring tide, would be less steep than that, because the vessel would be on the ground.

4520. You say that your company is a fair sample of the other steamships in Dublin?—I think that our company may be taken as a test company. It may be taken that what we do the others do.

4521. Have you seen the loading arrangements of the "Blackrock"?—I cannot speak for the "Blackrock."

4522. Are you able to say that the kind of old system that you described was a comfortable gangway?—I cannot say that, but I can go to this length and say that the loading on the south side is supervised as on the north side, and I have no doubt that it is right.

4523. Then you say there is a very keen competition?—Yes.

4524. Is that competition taking the form of a desire for cheapness or better accommodation?—For cheapness.

4525. You do not find pressure put upon you for better accommodation for the beasts?—I am bound to

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say that our shippers seem very well satisfied. I read the evidence given before this Committee, and I was rather pleased at the complimentary remarks made about us; we have not had complaints.

4526. Certainly, that is the fact, they are very complimentary to you all through; but several of them have said that they would be willing to pay more. I do not mean with regard to your special company, but in the general transit they say they would be willing to pay more if better accommodation were given. Do you see your way to spending one shilling per head advantageously for the beasts?—No, I do not, but I am quite satisfied on that point, it is very easy to say before a committee that they are willing to pay more; but the witnesses who say that know perfectly well that Parliament could not legislate as to what rates should be, and if additional restrictions are put on the shipowner, the shippers will have to find the money; there is no way of recouping them. It is easy to say the shipper will pay more rates; I know that we could not get more money, and my reason is a very distinct one. When these regulations were made which imposed more expense as to whitewashing ships and other things, there was an attempt made on the part of the shipowners to raise the rates, and they were not successful in getting them raised. The rates were raised, but the opposition started, and so far from getting more money they got less.

4527. If it were true that the beasts suffered to the extent of 5s. per head, you say the owners would not pay a shilling?—I am quite sure that they would not when they would not pay 9d.

4528. The argument is that even the beasts carried at company's risk suffer to a varying extent?—I dispute that. We know by experience that if an animal is bruised, say to the extent of 2l. per head or 30s. per head, the shipowner would be asked to pay for it.

4529. Are those cattlemen who bring over the beasts in your employments?—They are not in our employment, they are constantly going backwards and forwards.

4530. There was a man here who was a witness before us of the name of Fleming, is he in your employ?—No, he is not; his business is to go backwards and forwards, and he acts for certain large shippers; and he has done so for the last 30 years, I believe.

4531. But have you, besides that, men who take charge of the beasts where the owners do not send?—There are men whose business it is to go backwards and forwards. In our case we should put one of these men in charge at ordinary rates, and a very considerable amount of animals go at ordinary rates. I think last year there was a very large number.

4532. You would take that man on the job, and you do not have him in your employ?—That is so; some of the other companies have men in their employment.

4533. Would it not be a good thing to have them in your employment?—No, I think that the present arrangement works better. I have gone into the question. There is a reason for it: a man who is paid by the job has an interest in doing his work properly. A man who is paid by the week has not the same interest. I know that if a caretaker does not take care of the cattle he is not employed again; so that it is a direct inducement for him to do the work well.

4534. You have spoken about the statements of the Liverpool Society, and you say that there is no foundation for the statements with regard to your company?—None whatever.

4535. Are you prepared to say that they are without foundation with regard to other companies?—I do not like to speak of other companies, but in the case of the "Blackrock," the Committee, so far as I am concerned, can draw what conclusions they please; but the "Blackrock" was stated to belong to our company, and I object to that. I have nothing to do with the "Blackrock."

4536. (Mr. Booth.) I understand that in what you are saying, in matters of detail it is entirely from the point of view of your own company?—And the companies, the members of the association.

4537. But on general principles you are speaking as representing what you call the association?—Yes.

4538. Which of the companies are in that association? I think we should like to know, because there are a good many of them?—From Dublin there is the Dublin

and Glasgow Company, the Dundalk Company, the Drogheda Company, and the Clyde Shipping Company; they are the principal carriers of live stock.

4539. But your association is principally confined to Dublin, Drogheda, and Dundalk?—Yes, and the Clyde Company and the Waterford Company, and the Cork Steam Packet Company, they are members of the association.

4540. But in all matters of detail you are not empowered to speak for them, but you are speaking for your own company?—Of course, to a large extent; take the Drogheda and Dundalk, they are paddle steamers like ours.

4541. I am thinking of the arrangements on board the ships?—They are very similar to ours.

4542. Then in the matter of the gangways; at Dublin you say that the steepest angle, as far as you are aware, is 30 degrees; what is the difference between the rise and fall of the spring tides in Dublin?—At Dublin the tide would be from 9 feet to 13 feet.

4543. A vessel may be 13 feet lower at one time than at another?—Yes, that is the rise; I am giving the difference between the neaps and the springs.

4544. You gave us the extreme angle, which I understand might be the gangway from the quay to the dock of the vessel?—Yes.

4545. The extreme angle of that at 24 feet long is 30 degrees?—Yes.

4546. That is to say, the height from the deck of the vessel to the top of the quay would never be more than 12 feet?—That is about it.

4547. The model is 13 inches high?—It was made on that scale.

4548. With spring tides it is up to the top of the quay?—No, the vessel would be level at spring tides, the vessel's deck would be level, at very high tides it might be above it. I took the lowest spring tide for this Committee, and that was the result of the measurement. I took it last Saturday evening, and I could give the details.

4549. In your experience, cattle do not need any coercion at the gangways on account of your having an animal left in the gangway?—That was in reference to the alleged cruelty at shipment, and we do not find that there is any cruelty.

4550. Are you prepared to say that there is not any coercion, no urging of the cattle?—I am prepared to say that there is no cruelty.

4551. You said that there was no need of any coercion at the gangway, it may be cruelty or not; but do they need to be driven or urged, because your evidence is totally different from what we have heard before?—My evidence is quite correct. Of course the cattle require some urging, they will not go on by merely talking to them.

4552. But I understand that by leaving an animal at the top of the gangway the others would follow naturally?—That is the case; once the animals are fairly started down the gangway they follow, and at landing it is a most remarkable thing, but the reason alleged for it is that the animals smell the land, they leave the ship so readily.

4553. You say the same thing as regards putting them up and down, they do not need any urging?—I did not say that; I said there was no cruelty of any kind. I did not say that they will get up by merely speaking to them, they have to be urged to some extent.

4554. Then you said that if the cattle could only be sent on board at a time so as to be shipped at high water, it would be an advantage?—It would be a great advantage.

4555. How is that possible, because you have a regular sailing time in the evening?—We have a different system; we are very glad to load cattle; our regular sailing time is for cargo vessels, and if we get the cattle in good time we load at high water. It is a very great advantage to us when we can do so.

4556. (Chairman.) How is it a great advantage?—Because the loading is done more rapidly, and we get the vessel away.

4557. (Mr. Booth.) Then you referred to the Report of the Royal Society for the Prevention of Cruelty to Animals. You say that their statements are entirely

without foundation, do you mean with regard to that one point as to the possibility of animals having been a considerable length of time on the journey from the previous evening? Supposing they were going to be shipped on Saturday, and the beasts have left home on Friday evening or Friday night to go to a fair on Saturday, and they are sent on for shipment on Saturday afternoon, would you say that that does not occur?—That is not a fact.

4558. But the cattle trade gives an entirely different account of that subject?—I can only say that if people in the cattle trade say that, it is contrary to the fact, and our shippers will tell you what I have told you.

4559. Would you say that all cattle brought for shipment from a distance in Ireland leave their places in the afternoon and are shipped in the evening?—You have taken it wrong. This first paragraph on page 5 of the Report of the Society for the Prevention of Cruelty to Animals alleges that the cattle, on an average, go 24 hours without food. I say that does not arise in our case. If the cattle are in Dublin the night before, they are always fed.

4560. I do not doubt it. That is hardly the point. Your company do not know whether they have come by train and when they have left their homes?—We know when the train starts; we get telegrams.

4561. But that is not the whole journey; they have to be brought from the fair to the railway. Certainly you may know when the train starts, but that is not the origin of the journey. You will agree that the cattle are brought to the railway station?—If the cattle are started on the day there is nothing to prevent them, before shipment, being fed; if they are started early in the morning they are always fed.

4562. Nobody will deny that; but the statement in the Report you say was without foundation?—So I understood. There is no question about it; the cattle are not kept that time without food.

4563. It is not without foundation unless you deny that cattle are started on the evening of the previous day?—Suppose they are started on the Friday evening, and they are not shipped until the Saturday evening, they are not started without food.

4564. That is supposing they arrive on Saturday morning?—You mean cattle arriving on Saturday afternoon?

4565. Yes?—Those cattle are sometimes allowed to go straight on board.

4566. You said that that statement in the Report is without foundation, and I want to bring the thing to book, because I do not see on your own statement that you have shown that that is incorrect?—I understand this statement to mean that the cattle are to arrive in Dublin in the morning.

4567. I see exactly what that states?—It says, "With a small exception they thus go without food." If they are in Dublin in the morning they always are fed.

4568. The statement here is that cattle leave home largely on the afternoon or evening before the day of shipment. The transit is first by road to the nearest railway, then by the cattle train to the port, and next, after examination, branding, and loading, by the cross-channel boat, and after discharge, by road or rail to final destination. With regard to the Irish part of the journey, do you say that that is without foundation?—You mean that they are sent the day before the shipment and they are not fed.

4569. Which part of that statement?—This is what frequently occurs with regard to cattle. Now, which part of the statement is without foundation?—The part which says that the cattle leave the evening before the day of shipment, and are not fed until they reach the destination.

4570. It is difficult for you to prove that?—I say that cattle arriving that way, either at lairs at Dublin or in our cattle yard, are fed. I cannot put it clearer than that.

4571. Then you spoke about the inspection, if the beasts appear to be exhausted that would naturally be stopped by the Privy Council inspector?—Yes.

4572. Mr. Hedley told us that their veterinary inspectors did not concern themselves with anything except to see that beasts were fit for shipment and free from disease. He was asked whether if a beast had not been fed and appeared to be exhausted, that would be a cause of stoppage on board or on the part of the

veterinary inspector, and he said "No"?—That is the case about feeding. The Privy Council do not raise any question of feeding.

4573. It is a question put as to whether a beast appearing exhausted would be stopped by a veterinary inspector, and he says "No"?—I know what happens. The head of the department is here. I only tell you that the beasts are stopped.

4574. I wanted to ask whether it is your opinion that animals are stopped by the veterinary inspector when exhausted?—That is not my opinion, but what actually takes place. I adhere to my answer.

4575. Then, you said with regard to contracting out, I do not know whether we are talking of different things, but Major Landon gave us a copy of the document which those who wish to ship not at company's risk sign on the shipment of their animals, which is at page 6. That is what we are talking about?—That is the document which is signed for local cattle shipped by our vessels.

4576. That you do not call contracting out?—It is not contracting out on our part.

4577. You present a document, and thereby you are free from all responsibility?—We do not present it; the owner asks for it. If the owner does not ask for it his cattle go on board at the ordinary rate.

4578. It is the ordinary rate which has the smaller proportion of cattle?—The smaller proportion.

4579. And the larger proportion goes at owner's risk?—I think I have a return here. I prepared this for the Committee, and I give you the numbers shipped at ordinary rate and owners' rate in November last.

4580. I do not think that that would do, because the proportion would be much larger than usual?—Throughout the year about one tenth would go at the ordinary rate, but I have the precise particulars of those four days in November, and I am prepared to give them.

4581. Then you were speaking about the question of the passage way between the pens that has been advocated by a great many people, and as to a beast having fallen and being brought to the hatchways, you say that is done by taking down the shifting boards, and getting the animals through the others?—Yes.

4582. Should you consider that it would not be easier if every pen was next to a passage-way, so that the taking down of one shifting board would be sufficient, and the animal could be easily led away?—I explained that if an animal could not walk it would be impossible to drag it along an alley-way.

4583. I do not understand that, how is that?—It is too narrow.

4584. But you are talking of a certain width?—I do not think that you would take away the whole centre of the deck.

4585. What space do you suggest?—Certainly more than you call an alley-way; an animal is a large thing.

4586. If all the pens were full of animals, should you still think it easy?—The animals would be untied, and there would be room enough.

4587. Supposing this happens when the ship is rolling considerably, might you untie the animals?—When the vessel was rolling very heavily, in the case of the "Mayo," for instance, it could not be done whether there was an alley-way or not.

4588. I am not supposing an extreme case?—In an ordinary case it would be done.

4589. With the small number of attendants on board vessels, can one beast be tied up before more of them fall down?—I know that it is actually done.

4590. Would you kindly tell me, you speak of the opposition boats, which lines are we to understand by the term "opposition boats"?—From Dublin there are two lines of screw steamers; one is the Tedcastle line, which has been running a considerable time, and they have got a great deal of experience, and the other is Messrs. McCormick's, who own the "Blackrock." Those are the two running at present.

4591. Are there any opposition lines running from the other ports?—Not to Liverpool. There are, I think, regular lines from Dublin to Glasgow.

4592. You instanced a case with regard to detention, in the case of one of the ships, on account of the fog or something of that kind, and the vessel was 21 hours at sea?—Yes.

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4593. Can you speak at all for such a voyage as the Cork line runs, where their ordinary time is 24 hours and detention will make it much longer?—We had a very much longer detention since then.

4594. To what extent would your evidence go as to there being no injury to animals by being kept beyond the ordinary voyage?—I can give another instance, the case of the "Mullingar," on the 19th December 1890, 37 hours and 35 minutes.

4595. Can you say anything as to the condition of the animals?—The animals were landed all right, and no damage was done.

4596. What is the distance from the railway to your berths at North Wall?—A few minutes only.

4597. (*Sir William Kaye.*) Going practically into your yards?—We have a rail connexion with the railways, but so close is it that up to the present the cattle have not come in waggons; they are a very short distance away and walk across.

4598. (*Mr. Booth.*) What is the distance from the South Wall shipping place?—Very much further, there is no rail connexion with the south side of the river.

4599. Then you were speaking about the different rates. The evidence we have had is this, not that the shippers think that the 9d. addition an expensive rate unless they get what they consider a sufficient return for it. Now, again, I do not know whether this is directed against your company or generally, but they say they did not get a return which they thought was worth paying 9d. for. They want to get an insurance clause which would satisfy them, and they say this insurance clause only gives recovery in the case of the beasts being killed?—You are more familiar with it than I am, but I do not read it in that way. I think the expression that Mr. Nelson used was that they were ridiculously high.

4600. That is the Glasgow rate, but you are not speaking for the Glasgow boat on this question?—I am not sure about the difference, but I think that the Scotch companies will tell you about that.

4601. You say that your company is anxious and willing to carry out improvements?—They are.

4602. But in your opinion, in no direction is improvement required?—I do not see any, but the improvements that are urged to be improvements I do not think are improvements, but any real improvement that can be suggested I should be very glad to carry out.

4603. That is to say you think that no more attendants are wanted in the ships?—None.

4604. That smaller pens would not be an advantage?—Certainly not.

4605. You say that a passage way between the pens would not be advantage?—It would not.

4606. Nor improved ventilation?—I think the ventilation is perfect.

4607. You do not think that anything can be done to improve the gradients of the gangways?—I do not.

4608. I should like to know your opinion about the desirability of carrying cattle on three heights and the lower hold as well?—My opinion for a long period of years is that it has been a perfectly safe way of carrying cattle.

4609. Do most of the other lines carry on three heights and the lower hold?—In a screw steamer, for example, you could not carry on three places aft, because the lower hold is occupied by the shaft of the propeller.

4610. With regard to the tying; do you think that the fore and aft battens are sufficient?—Yes.

4611. That must be coupled with the necessity of tying, head roping?—No, I think not; if the animal is untied and the battens are in the pens, the animals will use the battens when the ship rolls.

4612. But the battens are fixed fore and aft?—Yes.

4613. When a beast is standing in a fore and aft direction, will those battens be of any use?—A beast has instinct enough to put its feet against the battens. In the case of store cattle it does not do to tie them. As far as the shippers are concerned, if the owners wish their store cattle tied there is no difficulty; it is done by the wish of the owners, who would know what is best for their cattle.

4614. Do I understand you to say that your fittings have never given way except in the case of the "Mayo"?—I know of no other instance.

4615. You are speaking for your own line?—Yes, for the last 20 years; our marine superintendent is here, and he can be asked any question upon that point.

4616. With regard to sending boats away in the time of storm, do you make any difference as to whether the vessel could sail, from the point of view of what the weather is?—I should not be party to sending a boat to sea if the captain said it was not perfectly safe. We make our captains responsible for the safety.

4617. For the safety of the ship or the cattle?—Both.

4618. Have you any instance in which you have detained boats on account of the storm?—Yes, in that case of November last, on the Friday, the day that the vessel sailed, there was a fair wind and there was no reason to anticipate a storm any more than a water-spout, but on the Saturday some of the vessels were detained late in the evening. The London and North-Western did not sail that night.

4619. (*Mr. Cullen.*) With reference to what we call the contracting-out clause, what does that refer to? I understood you that it was used only at the request of the owners?—Yes.

4620. That is, that if the owners wanted it they could have it at a lower rate, and you would compel them to sign that clause?—If the owner wants them at the lower rate he signs the risk note.

4621. Exactly; but you will not take them at that lower rate without signing that?—Certainly not.

4622. You are speaking now for the London and North-Western as well. They are in harmony with your views on the rates question, and, generally speaking, you work harmoniously with them in through rates?—Yes, that is the case.

4623. And also with the Midland and Great Western Railways?—Yes.

4624. Then we may take it that working harmoniously you are expressing their opinions generally?—Yes, generally. I have not consulted the Midland and Great Western. They are not carriers by sea.

4625. But where they are booking through?—I have had a conference with the London and North-Western but not with the Midland and Great Western. Generally speaking, I say nothing here to-day that the London and North-Western are not in accord with. But you will have the General Manager of the London and North-Western if the Committee desire to see him.

4626. We generally understood that you are working harmoniously together?—Yes.

4627. And it is your positive interest, is it not, knowing that the cattle traffic of Ireland is a most important one, and being one of the best paying individual freights coming from Ireland?—It is not a very good paying freight now.

4628. Speaking generally, if there are 700,000 head every year, it will be something?—It may have been something, but not now.

4629. Is there any other individual produce exported from Ireland that pays better?—I think that the cargo pays better; a ship full of cargo.

4630. What do you mean by cargo?—Dead weight.

4631. But what individual thing pays better; is it grain or is it poultry?—I think that there is a very large traffic in eggs.

4632. How does the egg traffic compare with the cattle traffic?—It is very large.

4633. How many thousands a year?—I did not expect to be examined about eggs.

4634. But you mention eggs?—I have known a ship full of eggs.

4635. I suppose it is the usual thing to have a ship full of cattle?—It is a good paying freight, the egg traffic.

4636. But there is nothing compares with cattle?—I do not see that. Cattle traffic pays very well as a general thing, but frequently the cattle do not pay at all; when, to oblige our customers, we send a special ship, for instance, with a small consignment it does not pay its expenses.

4637. Is it your experience that paddle-wheel steamers carry better than screw steamers?—I think, up to the present, we have found that they do.

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4638. I am entirely with you in that. With regard to the loading of the cattle in the lower hold, Mr. Rooth, an expert in the cattle trade, says that he would not have any cattle loaded in the lower hold. What height have you between decks for cattle?—Seven feet, I think, Captain Beli will give you the exact height; I think it is seven feet. I am not sure that it is not more; there is ample height, however.

4639. What difference is there in the lower hold; is it seven feet, too?—I have details made out, and they are all about the same.

4640. Do you mean seven feet?—They are about the same.

4641. Mr. Rooth, who is an expert in cattle?—He is a customer of ours.

4642. He says that there is always a preference given to put the cattle on deck, and then next between decks, and, last of all, in the lower hold, and he says that they are worst off in the lower hold than in other parts; do you concur in that?—I do not think that that is so.

4643. At all events, he is an expert, and he laid that down in his evidence, that any person being in there they got the preference that moment over through booked cattle?—I will only say on that point that our shipping people, as I said before, would do all they could to oblige Mr. Rooth and all their customers, and anything they can do they will do to oblige them. I think you would say the same. We would do anything to oblige you, Mr. Cullen.

4644. I would say that exactly; but if you got a telegraph notice that a lot of sheep, we will say 20 miles from Dublin, were coming to be shipped in the evening, would you reserve a place for those?—Certainly, our people would.

4645. Would you be surprised to know that I have got a case in existence that these were actually sent, and they had to be driven out to grass, and shipped the next day?—I do not mean to say that a case would never arise, if all the cattle came on Saturday we could not carry them.

4646. With reference to the contracting-out clause, there is one particular thing that seems to me very hard, and I should think that railway companies, in this country at all events, would not have them in their place, and that is with regard to the numbers; if a man ships a number, you contract yourself out of the liability of delivering those numbers, according to the reading of this contract note?—We do not; we always pay.

4647. Supposing a lot of sheep are washed overboard?—We should pay for them.

4648. It would be a matter of kindness?—Such a thing would not arise, because the sheep would not be carried on the upper deck in bad weather. I can only call to mind one instance, and it is ten years ago, when they first began to carry on the poops, some sheep were lost. Logically speaking, the company were not liable, but we paid for everything, although they were carried at the risk of the owner. In the case of the London and North-Western and ourselves, if you take the case of sheep booked at owner's risk, if we do not deliver the animal we pay for it.

4649. But at all events, according to the reading of this the numbers are not bound to be delivered?—Strictly speaking at owner's risk, the man gives his count, and he counts at the other end. He might count one too many, but acting *bona fide*, if a sheep were short, we should pay for the sheep.

4650. So far as Mr. Rooth is concerned, speaking of the lower hold, you distinctly say that there is no such preference as he alleges to have got?—I do not say that. I say a great many shippers like the deck the best. I am not sure it is the best. I said that they went equally well in the lower hold as on the deck.

4651. I presume you are not an expert; you are not a distressed agriculturist?—Certainly not.

4652. Would you give preference to the dealers if they wished it, on the decks and the 'tween decks?—I do not like to use the word preference. My instructions are that they are to do all they can to oblige their customers.

4653. With reference to the case of the "Mayo"; that was on an exceptional day?—Wholly exceptional.

4654. And it is believed that that ship, when she sailed, was improperly stowed?—I said that she was properly stowed.

4655. I did not refer to your evidence, but to what the outside public believed, that she was not properly stowed; that she was sent away in a hurry?—I did not know that.

4656. When the Midland and the Great Western Railway Company are booking cattle at through rates, do they give them an option of sending them at the owner's risk as well as the company's risk?—Yes.

4657. Because I was at a fair, and it was absolutely refused the other day?—If such a thing ever happened, the owner has the remedy at once, for if a railway company refuses to give an option, and say they will only take the cattle at the risk of the owner, the owner has nothing to do but to forward the cattle. They must give the option, and if the railway company refuses the option, then they are at the company's risk. The railway man has only to say, "I shall not give the option," and the cattle are carried at the risk of the company.

4658. (Mr. Walker.) I think you told the Committee that in the event of your carrying cattle on deck, if they were not properly loaded the Board of Trade could detain the vessel?—If a vessel is improperly loaded the Board of Trade can keep it from going to sea.

4659. But that improper loading only applies to the seaworthiness of the ship?—To the safety of the passengers.

4660. Would it apply to the safety of the cattle?—I should think that they have full power. I think that the one would imply the other.

4661. You cannot say whether the improper loading applies to the safety of the cattle or safe working of the ship?—I think that if the ship could be safely worked the cattle would be safe.

4662. The cattle might be improperly loaded as affecting their safety, without affecting the safety of the ship?—Take the case of overcrowding; there is full power to interfere.

4663. You think the Board of Trade have power to interfere if cattle were improperly crowded?—In that case it would be the Privy Council.

4664. I was referring to the power of the Board of Trade, which only refers to the safety of the vessel?—I think the one implies the other.

4665. Several of the witnesses who have gone before, a great many of them, have told us that in consequence of the injuries which the Irish cattle receive before coming to market, that they fetch a price lower than Canadian cattle of a similar quality, varying from 1*l.* to 5*l.* a head; do you believe that?—I do not believe it.

4666. In spite of what the other witnesses have said?—I do not believe it; I am satisfied that it could not be the case.

4667. Assuming that what they say is true, that if the cattle are so much injured as to fetch this lower price, you consider that those injuries have not taken place on board ship?—I do.

4668. Can you say where they may have taken place?—Of course, I do not speak from personal observation, but I have reason to know that where they get ill-treated is at the fair. The different owners do not care about their neighbours' cattle, and in getting them away a man does not beat his own cattle, but he belabours those of his neighbours. It is at the fair where the mischief is done, and it is quite impossible to say that when an animal is bruised that it was done on board ship and not at a fair.

4669. Then you are of opinion that if, as this witness stated, the cattle are much injured, that injury has taken place before the cattle reached the ship?—Certainly.

4670. It is stated that the cattle are injured in these vessels, but not in the Atlantic trade. Do the Atlantic shipowners carry the cattle at their own risk?—I do not know. I could not answer that, but if it is stated that the cattle are not injured in the Atlantic trade that is a mistake.

4671. It is said they are not injured in the Atlantic trade?—They are.

4672. The witnesses have said otherwise?—I could only speak of my own knowledge. I have known cases where the export from Dublin has been larger, and why larger? Because that week the loss on the Canadian trade was so heavy, and they wanted more cattle in Liverpool, I know that as a fact.

Mr. E. Watson. 4673. You cannot say whether the cattle in the Atlantic trade are carried at owner's risk?—No.

27 April 1894. 4674. (*Major Tennant.*) You are personally acquainted with the vessels, and can speak as to the fittings for the cattle?—Yes.

4675. Will you tell me the steepest angle in any one of your vessels with regard to the ladder going from one part to another?—30 degrees.

4676. That is the least?—We have less than that.

4677. I am speaking of the ladder from deck to deck, not the gangways?—I call those the gangways from deck to deck. The "Mullingar's" are 27 degrees.

4678. Do you think that it is possible to in any way improve the cattle ladders by running them fore and aft, or even placing them from corner to corner of the hatchway?—I have found no arrangement better than the present arrangement. It is far easier to work the cattle as they are at present.

4679. Do you think that a kinder angle would be better for the cattle?—I think that the angle is right. It would not do to give a gentle slope, they would not go down so readily.

4680. Supposing you had a kinder angle, would it be possible to guide them?—I am not prepared to say that it would; I would consider the plan of the vessel. We are making a slight alteration in the same vessel that I have been speaking about. Our engineer and I have conferred on the subject, but I do not think that you can make the angle much more gentle.

4681. Can you give me what is the least height with regard to headway that you have in any vessel?—Five feet 1 inch. "The Cavan" lower hold is 5 feet 1 inch, that is the distance from the combings down to the deck.

4682. From the combings down to the floor of the ladder?—Yes.

4683. Now as to the ventilation. I understand you to say that you think that the present arrangements are as good as they can reasonably be made?—I think they are.

4684. Are they capable of improvement?—Well, I never said that a thing was incapable. I suppose

The witness withdrew.

everything could be improved, it is very hard to say that anything is incapable of improvement. All I can say is, at present I do not see the necessity of improving it.

4485. May I ask, have you ever been in one of your vessels where the hold has been full of cattle, and have you been right close up to the bulkhead at the end of the hold with the cattle?—Well, occasionally; it is not a very pleasant thing. The managing director does not generally go into the hold, but at the time of the strike I did.

4686. I have been myself in the hold?—I was in the hold too.

4687. Do you think that the ventilation in every case when you have been in that position was as good as it could be made?—I think it was.

4688. Do not you think that if there was in every case a ventilator carried close up to the bulkhead, if it were possible, to get a current of air into the corner of the hold, that would be an improvement?—That is what we have ventilators at the bulkheads for.

4689. Have you them in the four corners?—Yes.

4690. In every instance?—Yes.

4691. (*Mr. Watson.*) In reference to the large numbers carried on Saturdays, I understood you to say that formerly the trade was better divided between other days of the week, especially Friday, while now it is all concentrated on Saturday, which makes the difficulty of shipping even greater than it otherwise would be?—That is the case. I made this return. In the year 1876, taking a series of Fridays and Saturdays, the average cattle carried on Friday was 1,399 and 1,224 sheep; on Saturdays 1,620 cattle and 1,294 sheep. That average is gradually altered, and taking the Fridays in 1893 the average is 364 cattle, 708 sheep, and on Saturdays it was nearly 2,000 cattle and 632 sheep.

4692. (*Sir W. Kaye.*) You are acquainted with the provisions of the Animals Order?—Yes.

4693. And the arrangements of your ships are in accordance with those provisions?—In strict accordance with those provisions.

CAPTAIN GEORGE ROBERT BELL, R.N., called and examined.

4694. (*Chairman.*) You are a commander in the Royal Navy, are you not?—Yes.

4695. And have been agent and superintendent of the City of Dublin Steam Packet Company for 19 years?—Yes.

4696. You have entire charge of the company's business in Liverpool?—Yes.

4697. You have heard what Mr. Watson has said, and of course we do not want his evidence repeated, but you can modify it if necessary. Is there any point in which you differ from Mr. Watson?—None. I agree entirely with what he has said.

4698. You say in your statement that you frequently had to superintend the shipment of cavalry regiments and batteries of horse artillery by your company's steamers and that you found no difficulty about it?—None whatever. I never had an accident.

4699. I suppose that horses could go down steep inclines rather better than cattle?—I should say cattle could go better.

4700. Were the horses stowed below decks and in the lower hold?—Yes.

4701. So, that they go exactly in the same place as cattle, and they would require the same treatment?—Exactly the same.

4702. Were the horses carried in pens?—Yes, just the same as the cattle—tied up to the rings at the side of the ship.

4703. Were there no rails between them?—None.

4704. Are they kept from lying down?—They are not allowed to lie down.

4705. Is there any rule in existence as to the space allowed for a horse in this army transit?—None that I know of.

4706. Would you stow them in as great numbers as cattle?—No; we give horses more room than cattle. The colonel and officers of the regiment are there, and

I always stow them exactly as they wish. If they wish to have bales up, I put them up. If some animals were kicking animals I would put bales up between every one, if they liked.

4707. How do you charge for that service?—There is a standing agreement with the Government.

4708. Do you happen to know the terms of it?—I could not give it to you.

4709. Could you tell the Committee whether there is an extra charge in the case of an officer requiring bales?—None whatever; there is a contract entered into for so many horses and so many soldiers.

4710. And it is done in the lump, and there is no special arrangement made?—Quite so.

4711. Is it the practice on board your boats, if a cattleman reports that an animal has gone down, to send your men down to help it on to its legs again?—Always.

4712. You do not think it would be advisable to get battens thwart ships as well as fore and aft?—No.

4713. I presume it might interfere with the cleansing?—It would interfere greatly with the cleansing and the stowage of the cargo afterwards.

4714. You say also that pigs could not be shipped in pens?—Not, as one of the Committee here suggested, with those cross battens; you could not expect pigs to lie down on them.

4715. Then you say there is no cruelty to animals landed in Liverpool?—None whatever that I ever witnessed.

4716. You have slings to use in the case of injured animals, and you say that they are really as carefully handled as if they were human beings?—That is the case.

4717. You believe that the company would deal summarily with their employes if they were cruel?—I am certain that they would; they are very well watched.

Captain
G. R. Bell,
R.N.

4718. You say that the Board of Trade supervises the fittings, and there are travelling inspectors to see to the cleanliness, ventilation, &c., and to add any further inspectors to the number would be vexatious and unnecessary. Do these travelling inspectors often travel by your vessels?—I could not answer that. I know that they do travel, but when they do travel they do it quietly. I could not answer accurately how often they go.

4719. I am informed that they cannot go unless they are on some special inquiry. You mention that no cargo can be taken on board one of your vessels which has had cattle until the entire ship is cleansed, disinfected, and limewashed?—That is so.

4720. That is, of course, with reference to the prevention of contagious disease?—Yes.

4721. Do you anticipate that before very long the Mersey Docks Board will have done all that is required for the landing arrangements?—Yes, I do think so.

4722. What is required?—They are giving us a longer stage, and they have already asphalted the north end of the stage and the bridges, which has only lately been done, and that is a great help to the landing of cattle there.

4723. You consider that the statements as to the difficulty of landing at Liverpool with the steep gangways and so on are exaggerated?—They are much so.

4724. Can you give us any definite information about your gangways?—I have got a sketch here (*handing in same*).

4725. This represents the gangway?—That represents our gangway at its worst angle.

4726. Is that at low water, spring tide?—Yes.

4727. What is the angle?—It is there marked, I believe.

4728. You use the same sort of gangways?—Yes.

4729. That will not be so much as 33 degrees?—I think I am right in saying that it is an angle of 23 degrees. I thought it was marked on the sketch.

4730. But you cannot, of course, diminish the angle in the cattle ladders in the interior of the ship?—Not in the interior, but we can in the exterior, by breasting the ship off. That sketch I had drawn to a 9 feet 6 tide in our dock—a very small tide. That is the worst angle when we had to land in our docks. Of course, the dock gates are always closed just after high water, so that we have not the steepness that you have in Dublin, and, if requisite, we can always breast the ship off from it to any angle.

4731. You could not do that except in a dock?—No.

4732. You say that it operates at Prince's Stage at low water, spring tide, at only 33 degrees?—That is at the landing stage.

4733. We need not go over the "Blackrock" and "Mayo" cases again. You wish to make some explanation, so far as your company is concerned, with respect to the references made by Mr. Abraham?—I saw some remarks about the ill-treatment of cattle and the beating of the cattle alongside the stage at Liverpool. Mr. Abraham was not on board the ship at the time. Now, the beating is not on the cattle but on the shifting boards, to make the cattle move on. They make a noise on the shifting boards and on the stanchions. I can understand that if that was the beating of the cattle it would be a most unmerciful treatment. As to the cattle, the great difficulty is to keep them from rushing on shore, the difficulty is to keep them back.

4734. (*Mr. Cullen*.) Do I understand you to say that there is no angle so great in Liverpool as there is in Dublin?—Certainly not.

4735. You were present at the landing?—I was there the whole time of the "Mayo."

4736. Were any of the head ropes cut?—I am certain they were.

4737. And was that to relieve the ship?—No; it was done by the cattlemen to try and save the cattle.

4738. What was the result?—The result was that the unfortunate beasts that were tied were injured, and the beasts that were not tied got to land safely. It was done by the cattle drovers.

4739. Is not it a fact that these cattle that had the head ropes cut tumbled down upon others and killed them?—Yes, the ones that were loose got the best off; the ones that were tied had those beasts on top of them, and when they fell down they could not get up again.

4740. You say that the cattle that were tied got worst off?—They were killed by the cattle that were let loose, and they were smothered. But it was the cattlemen who did it. I have the names of the two men that did it. They do not belong to our company.

4741. They were not out of your control?—They did not belong to our company; they were men in charge of the cattle at the owner's risk.

4742. Have you prevented after that trial the Prevention of Cruelty to Animals people from visiting that ship?—I gave an order, as there were so many wanting to go on board, that no one was to go on board without a written permit except they belonged to the Board of Trade or the Agricultural Department.

4743. You say that the Mersey Dock Board have done something of service both on stages and bridges; is that to prevent cattle slipping?—Yes.

4744. Is it effective?—Yes. We used to put ashes down and now they have rough-asphalted the place, and it saves the cattle and gives them a good footing, and it is only in wet weather that that is required.

4745. They have commenced the improvements on the top by giving more space?—They are going to open passages through the wall so that the cattle can be sorted better.

4746. Will that be open by next Sunday?—No, I think not. I have been at the Dock Board two or three times myself to try and hurry them on.

4747. You stated you were on the stage when the "Blackrock" came in?—Yes.

4748. Was not the weather unprecedented?—It was, in my time I do not remember anything like it.

4749. (*Sir W. Kaye*.) You are acquainted with the fleet belonging to the City of Dublin Steam Packet Company; are you aware that they are fitted with pens according to the Privy Council Orders?—Everyone of them is so fitted.

4750. Is there on every one a proper supply of air?—I consider the City of Dublin boats perfectly ventilated.

4751. There has been an allegation of cruelty to animals, and of the cattle being ill-treated at Liverpool. Have you seen that?—Not in our company's case.

4752. And you are there daily?—I am there daily. I do not say I am on the stage daily, but I see a great deal of it passing under my eyes.

4753. If any animals are weak or delicate, is there any way of getting them ashore?—We have appliances, what we call ambulance slings, and we have a little crane on the stage which we have got during the last three or four years, for lifting an animal on to the float, and there is a wide sling.

4754. The landing of the animals is done under the eye of the public?—Certainly it is.

4755. What is the estimated cost of the improvements that the Liverpool authority propose to make; is it 160,000l.?—Yes, that is it.

4756. Have they commenced yet?—They have already commenced.

4757. Will that effect a great improvement?—It will very much.

The witness withdrew.

Captain
G. R. Bell,
R.N.

27 April 1894.

Captain
L. Branigan,
J.P.

Captain LAURENCE BRANIGAN, J.P., called and examined.

27 April 1894.

4758. (Sir W. Kaye.) You are managing director of the Drogheda Steam Packet Company, are you not?—Yes.

4759. Have you been in command of any of the ships?—Yes. I was formerly in command of their vessels, and for the last 40 years I have been intimately acquainted with the navigation and management of the vessels in the trade generally.

4760. Between what ports?—Between Liverpool and Drogheda.

4761. Are you one of the directors of the company?—I am a director at present.

4762. Have the shipments of stock been carried on under your immediate superintendence there?—Yes.

4763. What is your opinion as to the regulations at present in force?—At present I am managing director. I do not take such a great interest in the concern as I did formerly. For 20 years I was superintendent on the coast, and had the general management.

4764. How do you think that the regulations in port as regards the safe and humane treatment of live stock are carried out?—We built all this fleet, almost new, built lately, and we have had all the improvements possible put into them. I superintended the fitting up of all the cattle fittings.

4765. You had put in suitable pens, and a sufficient supply of ventilation?—All the ventilation possible. To show how anxious we were we put in a fan ventilator and found it inoperative and had to take it out. We use the ordinary ventilation now.

4766. How did it become inoperative?—We could not make the tubes or pipes act through the boards, and it did not send down air enough at all, and it took up more room than the fan was worth.

4767. Are your people at Drogheda complying with the requirements of the officers of the Veterinary Department there?—Yes.

4768. Have you got a return of the number of ships for 1891 and 1892, and the beasts killed during that period?—I have.

4769. Will you state what they are?—In 1891 we had 46,692 cattle, 50,817 sheep, 37,926 lambs, 31,264 pigs, 305 horses. In 1892 we carried 50,599 cattle, 54,061 sheep, 39,363 lambs, 29,728 pigs, and 279 horses. In 1893 we carried 60,188 cattle, 52,279 sheep, 38,976 lambs, 27,203 pigs, and 292 horses. The total for the three years was 157,439 cattle, 157,157 sheep, 116,265 lambs, 88,195 pigs, and 876 horses. In 1891 no live stock died on any of the company's boats, but there were a few small claims for alleged damage after landing. In 1892 two lambs and two pigs died while at sea, and there were no deaths of cattle. In 1893 one beast died after having walked 12 miles previous to shipment, and another beast died on the passage. There were only a few claims for alleged damage that may have taken place at unloading.

4770. How long has that fleet been built?—We commenced this fleet in 1871, and we built the last ship four years ago.

4771. And they are supplied with all the modern improvements?—With all the modern improvements up to the present time; the electric light is in each ship. There is the electric light on the shore and in the yards. Steam steering gear, steam windlass, and hurricane decks, and all the modern improvements.

4772. Have you bullock men?—Our company pay the bullock men, who are part of the crew of the ship, and we pay them. We hold them more or less responsible to the company for anything that may occur.

4773. Is there room in the ship to get down to the cattle that may happen to get down?—There are the ordinary alley-ways behind the slips between the pens. No alley-way more than ordinary.

4774. And you think that is quite sufficient?—It is quite sufficient, and I have always found it so.

4775. (Mr. Watson.) Your vessels are all paddle steamers?—Yes.

4776. Which do you think is the better, paddle or screw steamers?—Paddle for carrying cattle.

4777. You deal very much in cattle?—Nothing but cattle; the vessels were built exclusively for carrying cattle.

4778. And your experience of fans are not very successful; you did not think they did any good?—They were a nuisance; I abandoned them altogether.

4779. You like the natural ventilation?—We found it best.

4780. And practically you carried 157,000 odd cattle in three years, and had two losses, and they were both weak beasts?—They were both weak beasts.

4781. You think the regulations are good, the the present regulations I mean?—I do not think that you can better them.

4782. And they are well carried out?—We are obliged to carry them out; there is supervision on both sides.

4783. There were a great many statements made that the people who ship cattle are very cruel to the animals; do you find much cruelty?—Not at all; they dare not be.

4784. Could cruelty go on without your knowledge?—No, decidedly not. I have been 20 years in command of a steamer, and know everything about it.

4785. And when a beast gets down you send men to its assistance?—A notice is given that the cattle is down, and the steam winch is used to hoist him on deck, and put him in a cooler and better place.

4786. And that goes on now?—That goes on now.

4787. (Mr. Booth.) Your line is the only one that has exclusively paddle ships?—The only one.

4788. The City of Dublin Company having almost entirely paddle steamers as well?—Yes, almost exclusively.

4789. Yours is a purely paddle line?—A purely paddle line.

4790. (Mr. Cullen.) Do you consider the ventilation perfect in your ships?—I do. We could not improve it, and if there is any improvement that could be pointed out, we are the parties to grasp it at once.

4791. Would you say that there was no damage on board the steamers this year?—Not more than is stated there. We were out on the 16th, 17th, and 18th of November last in that memorable gale which has been spoken of, and not a tail was turned.

4792. Was there any damage done to the cattle this year, or lately?—Not that I am aware of; there are always claims, you know.

4793. I understand that perfectly. I do not think there is anything else except the ventilation, and a great number of the cattle people think that it is not perfect, and that in the hold sometimes the ammonia is so strong that some outside people think blindness has come in consequence of the ammonia arising from want of ventilation. Could you suggest any way by which that could be improved?—I am afraid that the blindness you are speaking of arises from another cause. I think it occurs through the lime washing, the great extent of lime washing in the cattle ships; the lime has that effect on the cattle's eyes.

4794. (Mr. Watson.) Do you carry cattle in the lower holds?—We do.

4795. Do you find the lower holds any worse than the 'tween decks?—From my experience, if I had cattle, the lower hold is just the place where I would ask them to be put.

4796. What do you mean?—They get down here, the heat ascends; the lower hold is always the coolest, and there is much less vibration, and the cattle are less likely to be knocked off their feet. It is very hard to put them on the deck.

4797. You think that the lower hold is rather better than worse?—It is the best part of the ship. If you went into a cabin you would not take the top berth.

The witness withdrew.

Mr. JAMES D. O'CONNOR called and examined.

Mr. J. D.
O'Connor.

27 April 1894.

4798. (*Sir W. Kaye.*) You are a director of the Dublin and Glasgow Steam Packet Co., are you not?—I have been four years a director, and I was an auditor before that time.

4799. Have you also been engaged in agricultural pursuits?—Yes, I am a farmer.

4800. Have you yourself been engaged in the buying and selling of stock?—Yes, I was on Monday last in a fair at Roscommon.

4801. Between what ports does your company trade?—Between Dublin and Glasgow.

4802. What do they carry?—General cargo, passengers, and cattle, horses—not to a very great extent—and pigs, and sometimes we have sheep back from Scotland.

4803. Are the vessels designed for the carriage of cattle?—Yes, I consider it may be perhaps some of our best trade, and so did the directors, and they have always had those vessels constructed for the purpose of being able to carry live stock.

4804. And you have done everything as far as you could to make it as safe for the cattle as possible?—Naturally so in our own interests, as well as everybody else's.

4805. What are the names of your vessels?—The "Duke of Leinster," the "Duke of Argyll," the "Duke of Fife," and the "General Gordon." The "Duke of Leinster" and the "Duke of Argyll" are paddle steamers, and the "Duke of Fife" and "General Gordon" are screw steamers.

4806. Are any of them lit with the electric light?—The "Fife" screw steamer, and we lighted last year the "Duke of Argyll," and probably we are going to light another.

4807. Are there sufficient arrangements in each for ventilation?—Yes.

4808. Are your arrangements in accordance with the regulations of the Veterinary Department of the Privy Council?—Yes, we have done everything that we possibly could in the way of complying with the regulations of the veterinary surgeons. We have had the electric light put up, and we found, of course, that they were very strong, and naturally so; we have done everything to comply with their wishes, and I think successfully.

4809. Is the shipping carried on under the superintendence of one of the officers?—Most decidedly. He is there at every sailing, and the officers are on board. I have been with them when measuring the size of the pens for the purpose of the certificate to see that they were in accordance with the Board of Trade requirements.

4810. What is the accommodation in your yards for water?—We have water, there is water in the pens, and I would like to mention that I saw in the evidence that although there might be accommodation that they never got water. Well, I have seen the cattle with the water before them in the pens.

4811. Have you any arrangement as to the employment of bullock men?—Yes, we employ bullock men and send them with the vessels. They are, of course, under the charge of the officers. The mate is generally the man who is head over them. The captain is more for looking after the sailing, and the mate looks after the cargo and the cattle, and they would be under his control. If they required assistance for some purpose or other the mate would call upon the sailors and get enough of them to assist to do anything.

4812. If a beast goes down, would the sailors assist the bullock men?—Most decidedly, and I have known them to do it, and been present myself when it was done.

4813. Is there a hospital pen provided?—Yes, one is put on the upper deck, and one on the 'tween decks.

4814. Have the cattle been carried with considerable safety during the last seven years?—I think so.

4815. What is the estimated loss?—The estimated loss per thousand is about $1\frac{1}{2}$ for seven years, and for this last year, 1893, it was $\frac{1}{2}$ per thousand, that would be 2 for 8,000. Now, there was a Mr. Dwyer who gave evidence that between Dublin and Glasgow out of some six or seven thousand cattle shipped he lost only two, and many of the other witnesses stated that that was

ridiculous, and it was nonsense. Well, you see our average is only two for eight thousand.

4816. Are your injuries or losses to be attributed to anything on board your ships?—I think not. A great deal is due to what has occurred previously.

4817. Have you had personal knowledge yourself of ill-treatment of the cattle before they came on board at all?—Well, yes, I have a general idea, that anyone gathers from a knowledge of the country and country fairs. Now, as I told you on Monday last, I was at the fair, and I go to many of them, and the treatment which cattle gets is most scandalous. I do not think I could describe it. Of course when cattle are brought to a fair six or eight miles, and when they are sold, and you want to deliver them, they must be sent to a railway. To get out of that fair your men must beat those cattle and get them under way. When they go away, the people who own the cattle do not want their lots to be broken up, and they have to be beaten off. There are a considerable number of sticks going, and I have seen 100 to 200 sticks up this way, and the cattle were smoking whilst they were going along. Well, the cattle get that for a considerable distance, and when they get to the railway station they have to go through the ordeal of pushing and jolting, and some very heavy jolting in a cattle train. I have travelled with them, and it is something dreadful.

4818. Then the whole of the injuries do not occur exclusively on board ship?—Certainly not, and in that case that was spoken of by one of the witnesses, where the animal's skin was separating from its flesh, that would be caused by what I have described.

4819. And not owing to the treatment by anything on board ship?—I have never seen anything on board ship like that. Of course I never specially looked; still as a director of the company I often look after the cattle, even when the men might not know that I had anything to do with them.

4820. Is there any insurance enforced by your company, or how is that?—Yes, we carry them at owner's risk or company's risk and we charge them for company's risk 1d. per 1l. sterling, 1d. for every 1l., 15l. would be 1s. 3d. It is a good long distance.

4821. At which rate are the greater number of cattle carried?—Two-thirds at owner's risk and one-third at company's risk. We do all that we can to get them at the insured rate.

4822. Is it the difference of the 1d. in the 1l. that prevents the whole of them being carried at the company's risk?—Purely, they are carried so safely that the men do not want to give money away, I think.

4823. What do you say about the suggestion of giving them water and food on board?—I think, in the first place, that the passage is rather too short for it.

4824. What is the length of the passage?—From 14 to 16 hours. To Greenock, it is from 12 to 14, and then add to that two hours and that will be 14 to 16 hours going from Greenock to Glasgow, because the cattle nearly always go to Glasgow.

4825. Then your opinion is that they do not require water or food on board?—I do not think that they do, and I certainly think it would be very dangerous if the company were to give it. In Scotland they say, according to the evidence, it is a most dangerous thing to give them water. We, in Liverpool, say that they want to kill the cattle, and it does not do to give them hay, and between the two it would be a serious responsibility for the steam company on a short voyage.

4826. Is your trade with Scotland improving?—It is improving. There has been a statement made that the trade had decreased very much in both store and fat cattle, and that in 10 years it would be gone, and that it would be practically gone, because the cattle were so bruised. We carried 12,000 more this last year, 1893, than eight years ago. I could give the exact figures.

4827. You might as well, it is rather important?—We carried in 1887 26,781, and in 1893 we carried 38,025, and our losses in 1893 were three killed, and seven injured, that is 10; that is about a quarter of a beast per 1,000.

4828. (*Major Tennant.*) How many cattle men have you got in each vessel?—It all depends upon the number of the cattle. We have one, two, three or four—four would be the outside.

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4829. Are the men in your regular employment, or only employed occasionally?—Two of them are in our employment, and the others are not. They are men who are known as extra hands.

4830. Are the two that you have in your regular employment a portion of the ship's crew?—They are not belonging to the ship at all, and only go when there is a necessity, you see. Some nights we have no cattle at all.

4831. How many cattlemen per 100 cattle do you employ, have you any rule?—No hard and fast rule, but it would be one over 100. What I state is this, the mate is in charge, he is the principal, the captain has to navigate the ship; the men are all under the mate, and the bullock men are under him, and if anything occurs, they call him often. We have practical bullock men who can slaughter a beast if necessary, and they can get the crew to assist them.

4832. Supposing the weather was bad, would they have to attend to the ship before attending to the cattle?—They would give fair attendance. The crew can assist the men. It is hard to know what assistance the men would require. We think that the number of men is quite enough, and as far as we have gone we have not found the necessity for more.

4833. (Mr. Walker.) Have you ever attended an English or Scotch cattle fair?—I have not. I was at one in Wales the other day, but it was very quiet.

4834. Did you notice that the cattle were worse treated than in Ireland?—I did not see any bad treatment there, but I was a little late in the day.

4835. I have an old Blue-book which deals with that subject 25 years ago, and it says there that the ill-usage is attributed by more than one witness, "as much to the wild, untamed nature of the Irish beasts who have never been stabled, but rather collected from the hills and driven down to the seaports"?—Nothing in the world like that. I have cattle on my lawn, and they are as tame as possible, but whenever they go into the fair they fight among themselves.

4836. There is nothing, you think, in connexion with Irish cattle which necessitates more beating or urging than other cattle?—I do not know; perhaps the blood like our own, is a little hotter; I do not know.

4837. But still you do not think that there is more ill-treatment in an Irish cattle fair than in an ordinary English cattle fair?—I never was in an English fair.

4838. (Mr. Cullen.) You were speaking of the fair at Roscommon?—Yes.

4839. Would you be kind enough to explain what you saw there?—I saw what I have seen any time during the last 20 years.

4840. Did you see the wide row crowded with cattle?—Yes, the Fair Green, too, before that.

4841.—Have not all these cattle to walk down the road to the railway station?—They have.

4842. And is not that a very great injury to the cattle?—Of course it is.

4843. And great cruelty and injury occurs to these cattle?—Yes, and they get very bad till they are put into the Ferry Green to the railway station.

4844. That is with reference to Roscommon?—Yes.

4845. Is not there a fair green there?—Yes, but that is in a bad position; too far from the railway station; too far from anywhere.

4846. You saw a great deal of injury there which you thought preventable?—Yes.

4847. That injury was an appreciable loss to the agriculturists, and to the landowners of Ireland?—I think it would be, because they must be more or less damaged.

4848. Mr. Nelson said in his evidence before this Committee: "I happened to come across with the steamer 'Duke of Argyll' on Saturday night from Dublin. She had 247 cattle on board, and she had two bullock men. Those 247 cattle were loaded in three separate lairages on the spar deck, or the 'tween decks, and in the lower hold. In these holds these cattle are loaded in absolute bulk. If you go to the hold you see nothing, only cattle. There is no way for any man to get from the hatch to the far end of the place except by climbing over the cattle's backs, with a clearance of 18 inches from the backs of the cattle to the cross beam of the steamer."

"I asked a bullock man how did he go there, and he said he 'would not take the price of the cattle in the 'deck pens to go there.' Is that a fact?—I think that is exaggerated. I think that he goes on a little further and says that two died.

4849. Yes, in a further question?—Yes, but they were on deck. They were not the ones in the lower hold; as Captain Branigan says, it is the best position. The two that died on that occasion were on deck, and I fancy it had nothing to do with the treatment of the animals on board. They did not die in the lower hold, it was on the deck. The conclusion is that they were not killed on board, and they were not in the lower hold at all.

4850. (Sir W. Kaye.) They were not in the part of the vessel which is described by Mr. Nelson?—I do not at all agree with Mr. Nelson. He says the same vessel had no mechanical contrivances for ventilation, or that if it had it was years before, and had been given up. That is not true, it is deliberately false.

4851. (Mr. Cullen.) Then you say it is not true. Mr. Nelson further says: "It seems to me that it was pretty much the same as in most steamers, that there is very little intelligent effort at ventilation in any of them"?—That is not true of any of our steamers—not any of the four steamers. The system of ventilation in them all is most perfect.

4852. Are the arrangements and the gradients in Glasgow any better than they are in Dublin?—Well, I would rather not say. I could not answer that. I could speak with regard to Dublin, but not with regard to Glasgow. It appears to me about the same, but I could not answer that. I never stopped, or minded the cattle in Glasgow. I might make mention that the "Duke of Fife" was in that great storm of the 16th and 17th November last year. She had something like 268 cattle on board, and no damage was done to them in the slightest way. They arrived in Glasgow, and the only thing was that there was an addition to the stock owing to four old cows calving on board, and the calves arrived safely.

4853. (Sir W. Kaye.) What vessel was that?—The "Duke of Fife," a screw steamer. We have two paddle boats, and two screw boats.

4854. (Mr. Cullen.) Is it your opinion that paddle wheel steamers are safer for cattle than screws?—I do not know. With the paddle they do not roll so much, although our "Fife" does not roll either. She is well built, and she does not roll at all; but still I believe that the paddle may be something better.

4855. (Mr. Booth.) With regard to the returns of the killed, are those taken from the whole of the cattle shipped, or are they taken from the number carried at the company's risk?—The whole number.

4856. Do you receive returns of those cattle shipped at owner's risk?—Everything.

4857. How do you make up your returns?—All that are killed or permanently injured on board; but of course in the case of, we will say, something dying afterwards, we know nothing about that.

4858. You have four ships: two paddles and two screws?—Yes.

4859. And with regard to the screw steamers, you say in your proof that those have bilge keels?—One has; the other has not.

4860. Have you any opinion about the need of special ballast in a screw steamer for carrying cattle?—No; we have generally a cargo—some cargo as well.

4861. Supposing you have not?—Well, they have ballast; that is, a certain amount of it.

4862. What ballast?—Iron; permanent iron ballast in pigs or bars, and in castings of iron washed in cement.

4863. You do not have any water ballast?—No.

4864. Do you carry in your screw steamer at three heights?—Yes.

4865. The same as in the paddle. You have holds, between decks, and main decks?—Yes, of course we do not take the cattle into the lower hold; I have never known them in screw steamers.

4866. You do not take them in the lower hold in the screw steamers?—No; half the cattle are carried on deck. It is not often that you will have a whole ship load. Half of the cattle carried are carried on the upper deck.

4867. (Mr. Watson.) You have stated that there is no truth in the allegation that the trade in Irish cattle has

enormously decreased in consequence of the ill-usage they have got?—I am glad to say that it is increasing.

4868. It is the other way?—Yes

4869. We are told that it had decreased about 50 per cent. ?—It has increased 12,000 as far as we are concerned.

4870. Had you heard of this ill-usage before this Committee sat?—No; if I really believed in it, it would be the very first thing for me to do to prevent it, because

it would be killing the goose that lays the golden eggs if we destroyed the cattle trade with Scotland.

4871. How long do the steamers take in going up the River Clyde?—Two hours.

4872. There is no detention?—None.

4873. Except in the case of a fog, I suppose?—Except in the case of a fog, and perhaps we go dead slow in passing the dredgers. It is generally two hours; I frequently go up.

The witness withdrew.

Adjourned to to-morrow at 11 o'clock.

*Mr. J. D.
O'Connor.*

27 April 1894.

EIGHTH DAY.

At No. 7, Whitehall Place, S.W.

Saturday, 28th April 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B., Q.C.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHANT TENNANT.

Mr. INGRAM WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary.*

Mr. JAMES CLELAND BURNS called and examined.

4874. (*Chairman.*) You come here as a witness on behalf of the Clyde Steamship Owners' Association, do you not?—Yes.

4875. And you specially represent Messrs. G. and J. Burns?—Yes.

4876. That firm have steamers carrying live stock between Belfast, Larne, Londonderry, Ardrossan, Greenock, and Glasgow?—Yes.

4877. Will you give any indication of the numbers of cattle carried between the different ports?—We carry about 56,000 head of live stock over our different trades.

4878. In connexion with the Glasgow trade I suppose you carry them right to the Broomielaw?—We run cattle to Ardrossan, Greenock, and the Broomielaw.

4879. (*Mr. Cullen.*) Are those cattle and sheep that you gave the numbers of?—Cattle and sheep, and pigs too.

4880. (*Chairman.*) Could you give the number of sheep and pigs?—9,700 pigs, 8,300 sheep, and 38,000 cattle.

4881. And these are on all the lines?—Yes, over these different trades.

4882. The longest passage, I presume, will be that to Glasgow?—No, Londonderry is the longest; it is about 12 to 13 hours.

4883. Have you ever encountered much latent fog in the river in winter?—We do have fogs between Greenock and Glasgow very often, and it is our custom, if we see the ship is likely to be detained by a fog, to land the cattle at Greenock and bring them on by train.

4884. Then in connexion with your different lines you have an opportunity of comparing the accommodation for loading and for landing at different places?—Yes.

4885. Have you anything to say about the accommodation for loading at Belfast, Larne, and Londonderry?—They are much the same at all ports, and owing to the quays at Belfast, if you take that as an example, being fairly low, and with a small rise and fall of tide, we are able to ship the cattle there almost on a level.

4886. What is it in the case of spring ebb tides?—Even then, at Belfast, the fall is not very great, and

the incline of our gangways there will not be more than 4 feet below the height of the quay.

4887. Could you give any idea of the angle of incline?—No, I am not prepared to do that.

4888. What provision is there for the accommodation of cattle waiting to be shipped at Belfast?—There are pens provided by the harbour authorities where the cattle are expected to be taken before put on board the ships.

4889. Is there any provision for watering?—Yes.

4890. As a matter of fact do they get water?—It entirely depends upon the circumstances.

4891. It is at the option of the owner, I suppose?—Yes.

4892. We now come to Larne. You can give some particulars?—The shipments from Larne are very small so far as we are concerned, and the accommodation there is much the same as at Belfast.

4893. The arrangement of the harbours there would allow you to take the cattle on at an equally small incline?—Yes; there they have openings in the quay wall. It is a wooden pier; they have openings so that the gradient can be arranged according to the state of the tide.

4894. What accommodation is there for cattle arriving at Larne?—At Larne they all arrive by rail and run alongside the steamer and ship direct into the steamer.

4895. Do you ship on Saturdays, for instance?—No. Our sailing days from Larne are Tuesdays and Fridays.

4896. And I suppose the cattle intended for shipment at Larne are sent on by trains which ply in connexion with your routes?—Exactly.

4897. Where do you land the Larne cattle?—At Greenock and Glasgow.

4898. Now we came to Londonderry. Can you give us the same particulars about the accommodation at Londonderry?—There we ship a very large amount of cattle. Our sailing days from Londonderry are Mondays and Thursdays. Monday is our biggest day, and the cattle come in there by special trains from all parts to suit the sailing of our steamers; they must be passed

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before sunset there, and our sailing hour is 6 o'clock, so that as soon as the cattle are on board the steamer is away.

4899. In the pens there, there is accommodation for cattle feeding and watering, I suppose?—Yes, but a great quantity of cattle there come by rail; some of them never come near the pens except for inspection.

4900. The owners of cattle come from different ports, do they not? Take the case of Belfast. Have you any idea from what radius they come to ship at Belfast?—They come from a very large radius, from all the fairs round Belfast.

4901. My object in asking you that is to clear up a disputed point as to the amount of travelling they have gone through, and the amount of provisions for them?—I should say they come from a radius of from 30 to 40 miles.

4902. That would not be a long train journey?—From two to three hours.

4903. You do not know anything about what treatment they receive before landing?—No, I could not speak of that.

4904. At all events, at Belfast they are sending them, on an average, some two or three hours in the train?—Yes.

4905. Take the case of the Larne animals?—Really our shipments from Larne are so small that they are hardly worth mentioning.

4906. Have you any idea of what radius they come from?—They come from a very small radius, as far as we are concerned. There is another company, from Larne to Stranraer, called the Larne and Stranraer Steamboat Company.

4907. Well, now as to Londonderry. I suppose at Londonderry you ship cattle, at what radius?—I should say a 50 mile radius.

4908. I forget what you said about the provisions for feeding and watering; are they satisfactory?—There is the same provision there as elsewhere, but I do not think it is taken advantage of.

4909. Have you been present at the shipping of cattle?—Frequently; principally at Belfast.

4910. Have you observed any unnecessary persuasion on the part of the drovers?—No. The cattle appear to go on board very easily once they get started. There is lots of space at Belfast outside our shed, and the lots are kept separate very easily, and there appears to be very little difficulty in getting them on board.

4911. You say that the lots are kept separate do you land them separately?—Yes, we endeavour to do so as far as we can.

4912. Do you find much practical difficulty in connexion with them?—Very much depends upon the size of the lots. Large lots are very easy to manage, but with the small lots it is difficult to keep them separate.

4913. What do you call a small lot?—I call from 10 to 15 a small lot, and from 30 to 40 a large lot.

4914. If you get them to fill a pen it is easier?—Yes.

4915. About the drovers at Belfast; are they in your employment?—No.

4916. Are they licensed?—I understand not.

4917. You do not know anything further, whether those drovers are licensed?—I am pretty sure they are not licensed. The owners of the cattle employ them to bring the cattle down. We have nothing to do with them until they are handed over to us.

4918. The first process is getting them along the gangway. You have heard the evidence given by Mr. Watson as to the mode adopted by the City of Dublin Company; have you anything special to say about that?—Our arrangements are very much the same as those mentioned by Mr. Watson, only we have not the plank for the men to stand on the top of.

4919. Do you think that that is an improvement?—As far as my experience goes it is not necessary. Anything that is requiring any attention the men can do over the sides.

4920. The next point is getting the cattle into the places that they occupy on board ship. Where do you put them?—In the 'tween decks, and on the main deck.

4921. And do you have less planks to go down?—Yes, I think the plans will show you the incline.

4922. Perhaps you will give us the angles of the inclines and the space between the combings and the inclines as they go down?—It is a long plan. The height of the 'tween decks is 6 feet 10 inches, the narrowest part is 6 feet. That is where the cutting of the hatch is, and where the gangway inclines.

4923. (Mr. Parker Smith.) It is the smallest clearance?—Yes; the smallest place is 6 feet.

4924. (Chairman.) That is to say the distance between the combings of the hatches and the angle of the incline is 6 feet?—At the narrowest place.

4925. Allowing the drawing to be draughted to the incline, and in such a manner as to cut the combings, it will be 6 feet?—Yes.

4926. And the space between decks is 6 feet 10 inches?—Yes.

4927. Can you give us the angle of the traffic to the deck?—I have no more observations marked there. I shall be glad to get it and send it.

4928. You will put in the angle of the incline of the cattle traffic to the deck?—Yes.

4929. In how many different parts of the ship do you put the cattle?—On the main deck and after 'tween decks. That is a plan of the after 'tween decks (*handing in same*).

4930. When the cattle get on board have you any servants in charge of them?—They are all put on board by our servants.

4931. Have you any cattlemen in your employ?—Yes.

4932. How many?—We have no fixed rule; it depends upon the weather and where the cattle are stowed. We never send more than six—six is the greatest number we send.

4933. When will you have six—under what circumstances?—If the ship was perfectly full.

4934. And cattle stowed in how many different places?—In the after 'tween decks and the main deck.

4935. That would be three sets of men to each lot of cattle?—Yes.

4936. And that you find to be requisite?—More than requisite.

4937. More than requisite? But I presume you would not have more men than you thought necessary?—No, but over and above that we give passes to the owners of live stock; it is a recognised thing in our trade.

4938. Do you mean passes to the owners and for the drovers, or simply to the owners?—Not for the drovers. If I might, I would like to tell you how we give out the passes. One pass for every three horses; one pass for every four ponies; one pass for every five head of cattle and under 20; two passes for 20 head of cattle and under 30; and three passes for 30 head of cattle and under 50; and four passes for 50 head of cattle and upwards.

4939. That of course implies that you give passes not merely to the owners of the cattle but to the drovers employed by them?—The owners of the cattle make use of the passes, and go to bed.

4940. And then you have in addition to them your own men?—Yes.

4941. Would you make any reduction in the number of your own men if you saw the dealers sending drovers?—This is a very old regulation, and originally it was put in force because the owners were supposed to look after the cattle themselves, but our experience is that they do not do so, and they expect us to do so.

4942. And then they do not avail themselves of the passes?—They use the passes, but they go to bed; they do not look after the cattle.

4943. Do they use the passes in such numbers as you appear to give them?—Decidedly.

4944. Do they travel with the boats?—They travel to the fairs with their cattle.

4945. As to the provisions that they have in connexion with the cattle on board, do you keep an empty pen, as was described in the case of the City of Dublin Steam Packet Company, so as to enable injured cattle to be shifted?—No, our voyage is so short, and the cattle

injured are so few, that we have not found it worth while to do so.

4946. Have you any statistics about the number of cattle?—These are over those trades I have mentioned.

4947. If you could give the details of the trade it would be rather more instructive, because there is one point, that is greater length of the Glasgow passage, and the reason of that is the detention by fogs in the passage up to Glasgow?—We consider our passage there might compare with other people's.

4948. I have no doubt of it, but it is the longest of them?—Well, in 1892 we had three cattle killed and seven injured—two in the Belfast trade, and one in the Derry, killed; all the seven injured were in the Belfast trade. In 1893 we had two cattle killed in the Derry trade, and one in the Belfast trade; and we had three injured in the Belfast trade.

4949. Now, do you follow the practice that has been described as existing in the City of Dublin Company; do you carry cattle at two rates, one at owners' risk and the other at your own?—We have no other risk except owner's risk and rate.

4950. You leave it to the owners to insure if they like?—Yes.

4951. Do they insure as a matter of fact?—I understand not.

4952. We were told in the case of the City of Dublin Company that the animals carried at the owners' risk and injured were sometimes made the subject of claim by the owner, although he had signed the docket for their being carried at his own risk. Do you find that to be the case?—We find that they immediately let us know if they have an animal injured, even though they ship at the owners' risk, and they make a claim.

4953. Are you ready to meet their claims as described to us in the case of the City of Dublin Company. You recognise such a thing?—We do not recognise that we are liable for the claims, but we do meet them.

4954. Will you state the number of claims?—Those that I have read out, those are the only ones we have met.

4955. You have taken the statistics of the number of injuries from the number of claims sent in to you?—Yes.

4956. Is it not possible there may be other deaths and injuries in connexion with which the owner has recognised that you are not liable?—No, my experience of the owners is that they are very prompt in letting us know.

4957. You have something to say about the size of pens and the number of cattle in each pen. Will you let us have that?—As you are aware, the regulation is that the pen is not to exceed 9 feet in breadth by 15 feet in length—that is the maximum length. Owing to the construction of a ship there are very few pens that reach that size; most of our pens are smaller than that.

4958. What is the size?—The plan shows; there are a large number.

4959. Will you give specimens. What is the smallest sized pen?—7 feet 8 inches by 9 feet.

4960. And the longest?—15 feet by 7 feet.

4961. That is very close up to the maximum?—Yes.

4962. Roughly speaking what is the size of the larger number?—There are only two 15 feet long.

4963. Then do you think that these small pens which you have, owing to the construction of the ship, are of advantage?—Well, as I say, the rule laid down for the maximum is a good rule, and we must just work according to the ship's construction how we can fit in the pen, keeping in view that none must be larger than that.

4964. When you have cattle you have not anything like a full load. Which pens do you prefer to load?—On the main deck; it is more economical for our main deck to be used than the 'tween decks.

4965. And the size of the pens there are varied?—Yes.

4966. And you do not stow the cattle according to the size of the pens, but where it is most convenient to stow them?—Yes.

4967. So that you have got no opinion as to the superiority or inferiority of the smaller pens?—Well, I think you might go too far in making the pens too big.

4968. I wish to have your general views as to whether the smaller pens which you have here are an advantage?—No, I do not consider them an advantage.

4969. Now, the next point to refer to here is whether cattle should be tied by the head or not. What is your practice?—We tie bulls and cows by the head, no others, because tying by the head, if the animals get down there is rather a danger of their getting injured, and therefore we find it is better to leave them loose.

4970. You do not tie fat cattle?—No.

4971. Do you carry many stores?—Yes.

4972. Chiefly in stores or fat animals?—I think stores is the largest number.

4973. I omitted to ask you one point, the number of cattle which you put in each pen?—From 10 to 12, I believe, is the largest number of small cattle we put in.

4974. But I suppose you fill the pen to what it will hold?—Hardly as full as it will hold. Our men judge a safe number to put in; they do not pack them as full as they can hold.

4975. At the same time I presume you share the opinion of others, that they should not be too loosely packed?—No, there is a happy medium, I think.

4976. Do you find any difficulty about their getting down, or are they liable to fall down?—Yes, they do fall down; that is what our men are there for, to keep them on their legs.

4977. Is there any difficulty according to your arrangements in getting to them?—No, we have a passage on the main deck along the pens, and also between decks, as on that plan.

4978. You have an alley-way?—Yes.

4979. You do not tie the animal's head to the sides, and you do have an alley-way?—Yes.

4980. You have adopted that as more convenient for the traffic?—Yes.

4981. Is it a recent thing in your vessel?—No; ever since the vessels have been built all our vessels have had them.

4982. Your vessels having been built specially with a view to the cattle trade in this portion of your arrangement?—Yes.

4983. From the way in which the vessels are laid out there would not be any particular difficulty in watering or feeding the cattle?—We never do.

4984. You do not do so but with this alley-way would be possible to do so?—I think so.

4985. If a beast gets down in your vessel how do you get him out. We are told it takes a long time?—There is a difficulty, but they take down the cattle-boards and bring the animal along to the hatch mouth.

4986. Do you reserve a pen for shifting cattle?—No, the opening of the hatch mouth is always free of cattle on the 'tween decks.

4987. On the upper deck you have a similar arrangement, alley-ways in both?—Yes.

4988. Then we come to ventilation?—That plan also shows the ventilation.

4989. Will you please describe it?—We have Root's Blower engine in the engine-room, which drives air round that line marked there (*pointing*).

4990. You have not an arrow to show how it goes?—It goes in where you see it marked "Engine and Blower." The air goes in there, and those marks on the red lines in the casing is where the air comes out all round.

4991. And that is in the 'tween decks?—Yes.

4992. How many cubic feet do you eject per hour?—Equal to a volume of 1,500 cubic feet per minute.

4993. That will give us per hour 90,000 cubic feet?—Yes 90,000.

4994. And this 'tween deck is supposed to afford accommodation for how many cattle?—That depends upon the size of the cattle.

4995. Take average cattle; if you are full, what would it take as a fair average?—100 to 150.

4996. And you do not consider 1,500 cubic feet per minute too great a supply for 150 cattle?—Well our object in fitting that blower—we did not find it of great service at sea; when the ship is going at a fair speed there is plenty of wind, but in coming up from Greenock

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to Glasgow, where we come slowly and stop very often, we found it of the greatest service in keeping the circulation open.

4997. When did you fit that up first; when did you adopt this?—Six or seven years ago.

4998. And you find it, according to your experience, a decided improvement on the system of ventilation by windsails and cows?—When the ship is stopped or going slow it is useful.

4999. Have you often in your ships cattle long before sailing?—No, not long previous to sailing.

5000. Do you stop this when they are loading?—As they are being loaded this is working.

5001. Is it a costly arrangement?—It cost us for this ship 200*l.* to 300*l.* to fit up.

5002. And the working costs what?—There is not much when it is once fitted up.

5003. Have you had any complaints of its getting out of order?—It never has gone out of order.

5004. And it has been in use for six or seven years?—Yes.

5005. And have you them all fitted now?—In all ships where we carry cattle in the 'tween decks.

5006. Do you think it would be particularly necessary to have some arrangement of that sort, particularly in vessels carrying cattle in the lower hold?—As I say, it is not of so much use at sea; it is when we are going slow, or stopping.

5007. Or in the case of going with a following wind going at the same speed as the vessel?—Yes.

5008. What persuasion do you use in Belfast, Londonderry, and Larne; do they use sticks or goads?—Sticks. We were very anxious to use goads in Ireland, and we put the matter before the Privy Council, and also before the Society for the Prevention of Cruelty to Animals. It was put through our Londonderry office, before the veterinary department of Dublin Castle, and we had a letter from Sir William Kaye on the subject.

5009. At what date?—Shall I read it?

5010. Yes?—"Veterinary Department, Dublin Castle, 9th January. Mr. Moore, Londonderry Port.—With reference to your communication of the 18th December, relative to the proposed use of a goad for the purpose of driving cattle on board ship, I have to inform you that this department cannot undertake to sanction its use. This department has no statutory power to say whether a particular instrument should or should not be used, and any general sanction would be liable to be misunderstood. (Signed) W. S. B. Kaye."

5011. The refusal of the Privy Council would be on the ground of having no authority?—Yes.

5012. Have you ever applied to the municipal authorities?—No, we put the matter before the Ulster Society for the Prevention of Cruelty to Animals on purpose.

5013. In Belfast?—The letter has been read by a previous witness. They said that they would not sanction it, and that they would prosecute us if we used it.

5014. There are, of course, goads and goads; you of course had made one that was simple?—The goad we submitted was one supplied by Mr. Nelson, of Glasgow, a cattle salesman. He recommended us to use it, and we did not wish to get into a prosecution, and before doing so we did what I told you, and we used this goad in Glasgow.

5015. And you use it in Glasgow, and it is found to be efficacious there?—Yes.

5016. And it is no injury to the cattle?—We find it work very well.

5017. It consists of a brittle stick, does it not?—No, it is a fairly thick stick, with a little goad projecting about a quarter of an inch.

5018. But still the stick can be used for beating purposes?—It would not be of so much use as an ordinary cattle stick, it is too thick.

5019. It has been described as a brittle stick?—It has no spring in it.

5020. You never have had any trouble from the local authorities in Glasgow with reference to it?—No, it is regularly used by others besides ourselves in Glasgow.

5021. You wished to say something about the watering and feeding of the cattle *en route*, or do you think that the line is so short that it is hardly necessary?—That is all I have to say, that our passage is so short that the owners would not permit us to do it.

5022. What becomes of most of the cattle that you bring across to Glasgow; are they sold in Glasgow, or are they railed on to some other place?—A large number, in fact, I may say the most, go to Glasgow market. Those that are railed we land either at Ardrossan or at Greenock.

5023. They go on direct?—Yes.

5024. Take the landing arrangements at Glasgow; have you anything to say about them?—That plan that Mr. Parker Smith has there shows our gangways at Glasgow to be at their worst landing at dead low water.

5025. Again, would you supplement that by giving the angle of the incline?—I will be glad to do so.

5026. You have got the vessel a good long way out from the quay wall on that photograph?—The accommodation of the harbour of Glasgow is so limited that our vessels all overlap each other, and one vessel is shoved out beyond the other, and our gangway is 50 feet long.

5027. You have taken the case of a vessel that overlaps another vessel, but none opposite the quay wall?—We had no such thing as being beside the quay wall; all our steamers overlap each other.

5028. They are at an angle to the quay?—And even if there was not a steamer, the gangway being that length would shove the steamer over.

5029. Thirteen feet is the level of the deck below the level of the quay?—Yes.

5030. Kindly put in the angle afterwards?—I will do so.

5031. Now, in the case of the other places at which you land, Ardrossan and Greenock, what accommodation have you there?—There we lay close alongside, but the quay walls are not as high as Glasgow, but still the angle may be greater at low water.

5032. Let us have the angle at low water at Ardrossan, and Greenock afterwards?—I could do so, I have not got it beside me.

5033. Please supplement your evidence with it?—I shall be glad to do so.

5034. What accommodation is there at Greenock for the cattle that are landed?—We go alongside the quay there, and the cattle are all sent on by rail there at once.

5035. There are no pens or anything of that sort?—Not as far as we are concerned.

5036. You take the cattle for consignment right through?—We do not book beyond Glasgow.

5037. But you have arrangements with the Caledonian and South Western Railway?—Not for through booking of cattle; they are re-booked again at Glasgow.

5038. Take it at Ardrossan or Greenock?—We have a rate to Glasgow.

5039. And not beyond?—No.

5040. You know what becomes of the cattle for Glasgow or Greenock?—Of course, we arrange the things for owners.

5041. What I wish to make out is, how long the journeys are by train after passing out of your hands?—Our two greatest distances are Ardrossan to Perth and Ardrossan to Carlisle.

5042. Ardrossan to Perth, how long is that journey?—They are discharged by 5 in the morning.

5043. They start from Belfast?—From Belfast at half-past nine—Irish time—10 o'clock English time. The steamer arrives at Ardrossan at 4 in the morning, and the special cattle are sent away by 5, and arrive in Perth between 9 and 10 in the forenoon.

5044. And to Carlisle?—And to Carlisle is a little longer, I think.

5045. Let us have the time?—They leave Belfast at the same time, 10 o'clock, and they do not get to Carlisle till about noon, but most of our Carlisle traffic is *via* Greenock, where the railway journey is rather longer.

5046. Can you work that out?—These are Londonderry cattle. The steamer leaves Londonderry at 7

o'clock at night and gets into Greenock at 6 or 7 in the morning, and the cattle are landed and reach Carlisle by 1 or 2 o'clock.

5047. (*Mr. Cullen.*) The same day?—Yes, the day after leaving Londonderry.

4043. (*Chairman.*) Are you the only firm that carries cattle to Greenock and Ardrossan?—Yes.

5049. You have had surveys by the Board of Trade at the Irish ports of the cattle fittings; have you any remarks to make on that point?—No, except that the survey is very thoroughly done; it is held in Belfast, and I know the surveyor goes through the ships very particularly, and sees that everything is right. We have suggestions from him with regard to ventilation, and so on, and we have always endeavoured to make use of those suggestions. The only suggestion that I make is that as most of our ships are surveyed in Glasgow or in Scotland for other purposes, and the surveyors in Scotland have no power over the cattle fittings, it would be a great convenience to shipowners if one surveyor could do the whole thing.

5050. You do not see any difficulty of co-operation between the Irish and English authorities with a view to that?—No, it is a Board of Trade surveyor, in Ireland, who surveys the cattle fittings, and a similar man in Glasgow and other ports, and I do not see why they should not be able to do so.

5051. As to the question of liability for loss of animals while on board ship, do you wish to make any remarks on that point?—We admit of no liability, and we have never been asked to give rates, or to insure to cover liability.

5052. Then you do not consider, I presume, from what you say, that the admission of liability or rates covering liability would make any difference in the comfort or security of the cattle?—As far as our trade is concerned they would be merely book rates, and never would be used.

5053. You have a certain amount of competition, have you not?—Yes.

5054. Competition from Londonderry especially?—Yes.

5055. And from Belfast?—Yes.

5056. And also from Larne?—Yes.

5057. The chief trade from Larne is to Stranraer?—Yes.

5058. And with that you have nothing to do?—Oh, yes, we compete *via* Ardrossan, and *via* Greenock, with Stranraer for Carlisle cattle.

5059. So that all your lines are competitive lines?—Yes.

5060. That, I presume, makes the customers more active, or gives them a leverage with which to press for any improvements that they may desire?—The greatest improvement that they always desire is a cheaper rate.

5061. (*Major Tennant.*) I think you mentioned that the caretakers sent by the owners of cattle are often in your opinion not very reliable?—I do not say that they are not reliable, I say that they do not look after the cattle.

5062. I mean in that respect?—Yes.

5063. Do you book cattle through from inland places in Ireland to the port of Glasgow?—We do not book through.

5064. Not from inland places in Ireland?—No, our bookings begin at the port.

5065. You think then, I take it, that it is very desirable that the ship owners should themselves provide the caretakers, and not the owners of the cattle, in the interests of the cattle themselves?—I think it is a pity that the owners of the cattle do not look after the animals more than they do.

5066. It is your view, is it not, that unless the shipping company looks after them in many cases they would not be looked after at all?—That is my view.

5067. You mention, I think, that you generally prefer, on the score of economy, carrying the cattle on the main deck?—Yes.

5068. Simply with regard to the question of getting the animals on the 'tween decks?—We put them on the main deck because we can get them off quicker, and therefore the cheaper the delivery the quicker the discharge.

5069. You mention that you have alleys in every case on your main deck—that is an open deck is it not?—Yes.

5070. Your remark with regard to the alleys applies to the 'tween decks?—That plan shows the alleys in 'tween decks.

5071. In both cases?—Yes.

5072. On the alleys are certain pens, but not necessarily short pens?—Yes.

5073. There is one row that the alley-way does not reach?—Yes.

5074. You have in the course of having to remove cattle from what may be described as the inner lines of pens to pull down two rows of pens in order to get the cattle out?—Yes.

5075. Would it be practical to make a double row of alleys so as to be able to approach every pen?—Well it would reduce the carrying capacity of the vessel and increase the number of the cattle fittings.

5076. But assuming that the owners of the cattle were willing to pay a somewhat higher freight, you as a ship owner would have no objection to providing an alley that would run to every pen, would you?—Not if the expense incurred was to be made good.

5077. Provided the owners are willing to pay you, would you have no objection?—No.

5078. I think you mentioned that you only book on condition that the owner of the cattle accepts the responsibility of the loss?—That is so.

5079. Have you in any case paid for any injury or loss?—Yes.

5080. Under what circumstances did you pay for damage; can you describe how it was you paid for injury, if you throw the whole responsibility on the owners of cattle?—Well, they are so very few; the number of the injured is so very few, and they are very good customers of ours, and we always are prepared to meet them in a case of that sort. Any carrying company, although carrying goods at owner's risk, frequently pay claims.

5081. Do you look upon it as admitted on your part that you had not taken the care that you ought to have taken?—Certainly not. We never pay a claim unless it is clearly understood that we admit no liability.

5082. (*Mr. P. Smith.*) You are here not only for your own company, but for the Clyde Steamship Owners' Association?—Yes, I am a director of the Clyde Steamship Owners' Association.

5083. Who are the other companies concerned from Glasgow in this trade?—A. H. Lamont & Co., the Clyde Shipping Co., A. A. Laird & Co., and William Sloan & Co., and the West Highlands Co. carry sheep.

5084. Do the Clyde Shipping Co. go longer journeys than those?—Yes.

5085. So that the Lamont and Laird lines are those that compete? Does the Sloan do much?—Yes, they have a large cattle trade between Sillioth and Dublin.

5086. You have given us evidence as to your company and boats; are you able to say whether very much the same would be true of the other lines?—I think ours is a fair sample of the boats trading to Glasgow.

5087. The Laird and the Lamont boats and your own are very much the same?—Yes.

5088. As far as you know we may take it to be tolerably correct of the others?—Yes.

5089. You have shown us all the plans of the "Dromedary"; is there much difference between the three boats?—We have three boats exactly the same as that, and the others are very similar in their arrangements.

5090. You have given us here a clearance of 6 feet as the most for going down?—Yes.

5091. Can you say how much less clearance there is in the other boats?—No; the boats in which we carry cattle in the 'tween decks have no worse clearance than that.

5092. Then that is a plan of a boat lying at the Broomielaw?—Yes.

5093. Can you say whether you always take cattle off with that long gangway?—Yes, always.

5094. So that you never have anything steeper than is shown there?—Quite so.

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5095. Then you have given us the size of the hatch as 12 feet; and showing that the gangway is arranged athwart-ships, what is the size of the hatch fore and aft?—I do not know.

5096. Do you know whether it is greater or less than 12 feet?—It is about square, as nearly as possible.

5097. So that there is not any particular advantage in making the gangway fore and aft instead of athwart-ships?—It would be very unpleasant, because if they were fore and aft they would go against the engine-room bulkhead, and there would not be room to turn.

5098. Have you seen cattle at the Broomielaw?—Frequently.

5099. Do you see much trouble in getting them out of the 'tween decks into the gangway?—Very little trouble indeed, once they are started.

5100. Do you see them much distressed when on shore?—Sometimes, when shipped in bad weather they are.

5101. When distressed they have been shipped in bad weather?—When shipped it has been a wet day on the other side, then they are apt to become distressed.

5102. But you consider that the distress comes, not from any difficulty in getting them in or out of the boat, but from the fact that they arrive wet and distressed?—Yes.

5103. Have you been down in the 'tween decks when the vessels arrive?—Not actually down.

5104. Can you say whether the air is tolerably fresh?—I have seen a number of men down there, and they do not seem any the worse for it.

5105. We have heard this from various witnesses about beasts becoming temporarily blinded with ammonia or anything of that kind?—I never heard of it before until it was put in evidence here.

5106. Do you consider this gradient an excessive one for getting cattle up. We have heard from various witnesses suggestions that there ought to be cuts in the quay at the Broomielaw, so as to make the gradients of the gangways less; do you think that of importance?—I do not think that would work at all, because whatever the Clyde Trust may think of it, you must remember all ships are different sizes, and if you made a cutting in the quay at one place it would only fit one ship, and we should always have to keep the ship's gangway opposite this cutting, and that would mean a greater extent of berthage accommodation on the Clyde than there is to be had.

5107. We have heard from various witnesses suggestions that there should be one particular place on the Broomielaw where the boats of all the different lines bring cattle to land them?—I consider that quite impracticable, because many mornings two or three steamers arrive, in one instance, perhaps, all full of cattle, and they would find it very injurious for these cattle being kept waiting, and one berth would not meet the trade, and there is no quay space for more. On the other hand, steamers arrive there perhaps with 20 head on board. It is not going to pay us to be waiting for 20 head when we have a valuable perishable cargo on board all wanting to get on to the railways—not to speak of passengers—and if it was decided that there was to be one berth we might try it, but the result would be, as far as we are concerned, that the cattle trade would leave Glasgow, and we would not bring the cattle to Glasgow.

5108. The suggestion has been made that they should be landed at Shieldhall; what you say would apply to landing there too?—Most decidedly.

5109. With regard to the beasts after they get on to the quay, have you got much room where your boats lie?—The shed when the steamer arrives is quite empty, because it is the inward shed. There are outward and inward sheds. The steamer arrives at the inward shed, and the thing is empty, and the cattle are sorted and are driven away at once.

5110. Have you any arrangement to keep them together; we heard of their tumbling over hogsheads and pig-iron and merchandise?—I tell you the shed is empty when the cattle arrive.

5111. Is the shed always empty do you think; does it not happen that some of the cargo of the last boat is left there?—No, it is an inward shed, and the cargo is cleared away very promptly, and if it is not cleared away we shift it ourselves to make room for the cattle.

5112. So that in the shed there is no special overcrowding?—Decidedly not. I might explain that there is a bye-law that cargo must be cleared out of the shed within 48 hours or quay rent is incurred.

5113. Is there not cargo lying there to go out?—No, that is another shed; we shift our boat.

5114. To another shed?—Yes.

5115. So that there is no outward cargo coming into that shed at all?—No.

5116. You have told us about the ventilation in your boats; can you say whether there is artificial ventilation in the boats of the other lines?—Yes, I understand so.

5117. Then there is pretty keen competition, you have said?—Yes.

5118. Does that competition take the form of asking for better accommodation or cheaper rates?—Cheaper rates entirely, because some years ago the cattle dealers themselves started a steamer for the very purpose of keeping down the rates, and there never was a worse fitted cattle boat than the one they ran—their own boat.

5119. You do not find any pressure put upon you for better accommodation?—We have never been asked for it in the most distant way; it has never been brought before us in any way.

5120. We have had various witnesses saying that they would pay higher freights if they had better accommodation; have they said that to you?—Never.

5121. We have had various witnesses saying that the average value of a beast as it came over from Ireland was very seriously diminished, a good many of them put it at 1*l.*; what do you say to that?—I do not see how they can deteriorate on board the steamer, but I am not an expert.

5122. Of course they say the whole of the journey; they do not want to put it on the steamer itself, but part is set down to the steamer?—I do know that they do arrive in very bad condition at the port of shipment from being weary and footsore; no doubt that helps the deterioration.

5123. Another point that has been put to us by various witnesses is that the maximum size of the pens ought to be reduced, say by half; what do you think about that?—That would mean a very large increase in the fittings for the cattle, and that means increased cost for the up-keep. The cattle fittings are very expensive to keep up, and it would add greatly to the weight carried by the ship, and therefore reduce the dead weight tonnage capacity apart from the cattle, and that would tend to increase the rates.

5124. But supposing you could get an increased rate, do you think it would largely improve the carrying of cattle?—No, I do not think it would. The present regulations are all that could be wished for.

5125. Supposing freight was not in question, would you be anxious, supposing you could get an additional *1s.* on freight, to spend that on the accommodation of the beasts; would you think it well spent in reducing the size of the pens?—No, I should not.

5126. Putting aside the question of expense, you are satisfied with the present arrangements of the boats?—Quite satisfied.

5127. You always carry the cattle at owners' risk?—Yes.

5128. Various witnesses have said they think that the cattle ought to be carried at company's risk?—We have never been asked for such a rate.

5129. Do you consider that you would give more care to the cattle if they were being carried at company's risk?—No, I do not think we would give more care than we do. It is to our interest that the cattle should be carried as well as possible; that is why we have gone to such expense in steamers and fittings.

5130. Did I understand you are not bound to have in your books a company's risk rate?—No.

5131. You stand in a different position to railways in that way?—Yes.

5132. Do you see any reason why the same rule that applies to a railway should not apply to you?—The conditions under which steamers work are quite different from what railways work. It would only hamper us to supply two rates which are not asked for.

5133. You do not think, as it has not been asked for, that it would be made use of?—I am satisfied of that.

5134. If you book through you would have to supply the extra rate?—Yes.

5135. But when you do not book through, and do not book over a railway, then you are free to take your own choice in your own way?—Yes.

5136. (*Chairman.*) How do you do when you send cattle to Glasgow, *via* Ardrossan?—There may be a rate in the book, company's risk, but it is never used or asked for.

5137. (*Mr. P. Smith.*) The cattlemen that you have on board are not in your permanent employment?—That is so.

5138. Do you think that is more satisfactory than having a man in the employment of the owners?—Yes, I think that the men ought to be under the control of the ship; besides these men, in the case of emergency, the officers and crew always help with the cattle.

5139. Then the passes that you give to the owners are practically a kind of discount on the freight?—They have become that now, but originally it was intended that the owners should look after the animals, and in olden days they used to do so. If any burdens were put upon us to supply men compulsorily, then we should have to withdraw those passes.

5140. There is no compulsion to supply men at all?—No, we do it because we see that it is to our interest to carry to the best of our ability, therefore we send men to look after them.

5141. (*Mr. Cullen.*) I understand that you do not carry cattle on the lower hold?—No, only the main deck and the 'tween decks.

5142. And all those cattle are properly inspected before you take them on board?—All of them.

5143. By a veterinary inspector?—Yes.

5144. And also by a port inspector?—I am not aware of their being two inspectors.

5145. I understood there was one for the port. There are 41 of them reported to be existing in Ireland. You have never seen them?—I have never been present at the inspection.

5146. And you are from three ports, and you have never seen one of them?—I have seen those inspectors, but I have not been present at the inspection; they are supervisors that I mean.

5147. There is a man on the quay when the cattle are being shipped, an inspector?—I am not quite sure what authority he has, but he is a man in authority.

5148. Is he an ex-policeman, or has he authority?—He certainly has authority.

5149. What does he do? He is not the inspector, he is a supervisor?—I do not know what his duties are exactly; I know that he is there. We have not had any trouble with him; he has never checked us with anything.

5150. With regard to rates: have you any special rates?—We have a variety of rates, according to the size of the animals.

5151. How do you make the rates; is it by weight?—No, by the size of the animal; we have rates for store cattle, fat cattle, calves, and so on.

5152. How do you determine the difference between fat and store cattle; is it by weight?—No, our man who has charge of the shipments judges as to what he considers a right rate to charge.

5153. And you take a reasonable view of the subject, do you?—Yes, we have a man there for the purpose.

5154. And, in fact, it depends upon your judgment as to what the rate shall be?—Yes.

5155. And then I see that you meet all just and reasonable claims?—I do not say that. We do not admit that we are liable for any claims.

5156. I understood you to say you did meet claims?—We do occasionally, when we think they are right.

5157. But that, of course, does not mean a preferential rate?—No.

5158. When the passes are given, that does not mean a preferential rate?—They are open to anyone.

5159. On condition that they travel?—And ship a certain quantity of cattle.

5160. You have no hard and fast line with regard to fat or store cattle or calves?—No.

5161. You do it in a reasonable and fair way, to encourage the dealer and the distressed agriculturists of Ireland?—We are not philanthropists.

5162. At all events, you control the rates?—Yes.

5163. What sort of claims do you meet; unreasonable claims?—No, decidedly not.

5164. Then reasonable claims?—Yes.

5165. And you allow for losses. Well, now, it was said that the cattle in Ireland are of a particularly fierce and wild character; is that your experience?—No, they do not appear to me to be particularly wild.

5166. With regard to the footholds, I suppose the footholds are placed in the usual way, fore and aft?—Yes, battens.

5167. And the ventilators are mechanical ventilators, and so far as you know they have never failed?—We have both mechanical and ordinary ventilators.

5168. But this one you describe as a mechanical one, and has been in use for several years, and it has never failed?—Yes.

5169. The number of cattle you seem to have carried (8,300) represents about one-twelfth of the entire number that goes into Glasgow?—That is our number.

5170. When the vessel was full you had six men in your own employment on board the ship?—Yes.

5171. And when she was full, about how many cattle had you?—From 350 to 400.

5172. We may take that for six men?—Yes.

5173. Are you prepared to say that all the other steamers that are associated with you are in the same condition for carrying cattle as your steamers that you have described?—Do you mean the steamers belonging to other companies?

5174. Yes; you are chairman of an association, and you represent steamers?—That is a fair type of the steamers trading to the Clyde.

5175. And you know that from your own observation?—Yes.

5176. But they do not carry cattle in the lower hold?—I know the steamers to Glasgow do not.

5177. And are their mechanical ventilators of equal efficiency with yours?—I am not prepared to say that.

5178. Then it is stated here by a witness, and I suppose you disagree entirely with it, in question 3370, "At low water the gangway (I think that it is simply 'scandalous' at low water the gangway when put into 'the boat for the discharge of the cattle is upstairs like 'a ladder. It is nearly upright.'" You disagree entirely with that?—I say that it is untrue.

5179. Q. 3132. The witness says here: "Yes, I have 'seen 33 per cent. of the cattle coming off a steamer 'absolutely blind for a quarter of an hour to two or 'three hours after they landed.'" Are you in a position to contradict that?—As far as our steamers are concerned, I have never known it.

5180. Here is another witness who says in reply to question 3155, "I take it as the result of my experience, 'and from speaking with cattle dealers who ship 'largely to Liverpool and Holyhead, and to other 'ports, as well as to Glasgow, they all concur with me 'in saying that Glasgow receives her cattle in a worse 'condition than any other port.'" You disagree with that?—Yes, I can speak for all the ship owners, that none of us have had any complaints in general terms like that. They never complained to us.

5181. (*Mr Booth.*) Your line from Belfast to Glasgow is the chief one, I understand?—Yes.

5182. It has a comparatively short distance really in the open sea?—Very short.

5183. So that you have less trouble probably from the motion of the sea, at any rate than most of the lines?—Yes, ours is short.

5184. It can hardly be compared with others as a fair sample of the sea passage?—It is better than some.

5185. Then you spoke about the distance from which your cattle are drawn that come to your steamers at Belfast, it being probably a short distance, 40 or 50 miles?—Yes.

5186. You speak of that simply as the average. Do you know from what distances they may be brought to Belfast, from what parts of Ireland further than they

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are sometimes brought?—They do not have them often brought further, because there are many other ports.

5187. But I presume there are some places at a considerably greater distance?—I believe there are.

5188. I was going to ask some questions about the other lines in comparison with your arrangements, but there is no occasion to do that, as we are going to have other witnesses to speak for it, but with regard to the head-roping of the beasts, it appears to run rather on a different principle than is done from the boats coming to Liverpool. On your line you say you only tie the bulls and cows, and your footholds are only fore and aft footholds?—Yes.

5189. When the beasts are not tied, I presume they stand, not necessarily in one direction, but just as they please themselves?—Yes.

5190. Do you consider that the footholds are adequate, for instance, for an animal not standing 'thwart ships?—Yes, we have never had any trouble; we have not found that they have got down to any extent.

5191. But theoretically you would expect a beast to be apt to fall?—They do not in practice.

5192. But you have never heard it suggested to put the 'thwart ships cross-battens?—Never.

5193. Then you spoke about the surveyor of cattle fittings at Belfast; the surveyor that you spoke of is the surveyor of the Board of Trade?—Yes.

5194. And he is not there excepting at the time for the survey of the ship?—Once a year he sees that the cattle fittings are right.

5195. Some questions were asked by Mr. Cullen about the port inspectors, which you did not seem to be quite conversant with. Those, as we understand, are the men who have the supervision of the shipment and stowage of the cattle on behalf of the authorities: that is to say, the Privy Council should see that the regulations are complied with with regard to there being no overcrowding, for example, and that the ship is going to be properly ventilated during the voyage of the cattle, and so on, but you did not seem to be aware that these men were practically on hand?—I know that they are always there, with six or eight steamers sailing every night, carrying cattle.

5196. I understand from the authorities that there are not more than four, or at the outside five of those men employed there, and as we know from other sources, they are men who are from the constabulary; I only speak of that so that you may understand what has been spoken of?—Yes.

5197. But even six or eight, or even more steamers, are loading at the same time?—Yes.

5198. With regard to the cattle sheds, they belong to the harbour authorities, not the steamship companies?—No.

5199. But they are down on the quay?—Yes.

5200. Then I understood you to say that you never ship cattle in your forward lower hold?—Never.

5201. Is that on account of the want of depth in the ship, or because you do not think the lower hold is a satisfactory place, or for what reason is it?—Well, we have sufficient room for all the cattle that come forward. We have two steamers to sail every night, and they meet the ordinary requirements, and one extra steamer is put on when necessary. Our steamers are all screw, and the lower hold does not lend itself for cattle.

5202. Then you spoke about the drovers at Belfast, but in speaking of the drovers you did not speak of the men who drive them on board?—No, those are our men.

5203. (Chairman.) What do you call them?—Labourers we call them, because they do other things.

5204. (Mr. Booth.) They are, in fact, under the stevedore, the same as the men who load the cargo?—They are the same men.

5205. Then the company from Stranraer, what company is that?—The Lorne and Stranraer Steam Packet Company.

5206. Can you tell us how many steamers they have?—Three or four steamers.

5207. Are they running regularly?—Only one at a time.

5208. But they are regularly carrying cattle?—Yes.

5209. From Lorne to Stranraer?—Yes.

5210. Do they carry in connexion with a railway company?—They belong to a railway company, I think.

5211. (Mr. Watson.) I understand you to say that you consider in Glasgow it is absolutely necessary to discharge wherever the ship's berth is?—Yes, because our steamers are not purely cattle steamers; they carry a large amount of perishable traffic; live fowls and fresh greens and that sort of stuff; they are generally wanted at once, and if there is any delay to them there would be very serious complaints.

5212. So that neither the berth allocated for the purpose, for all cattle to be discharged at particular spots on the quay would suit the trade?—No; if you take Sunday morning, that is a morning when a lot of cattle arrive: there is no train from Greenock, and the passengers all come to Glasgow, and therefore it would be delay to them if we called at some place lower down the river.

5213. As regards the detention, it is said that the Shipping Company by contracting out of liability causes a great detention of the cattle; is that the case?—No, I know that we get the cattle as speedily run up to Glasgow as we can—we try to get the cattle there as quickly as possible. The company that delivers cattle fastest gets the cattle trade.

5214. And you deliver them as quickly and as well as anyone else?—That is our aim and object, to get rid of them as quickly as possible.

5215. Can you suggest any way in which contracting out could cause detention?—I cannot see how it could be in anyone's interest to detain a vessel in any way.

5216. As regards the injuries that the Irish cattle trade to Scotland has received, it is alleged that it has fallen 50 per cent. of late in consequence of the very bad condition in which the cattle are landed; is there such a falling off?—No, I was very much surprised to hear it. I understood it was the other way.

5217. You mean an increase?—Yes.

5218. You have not heard anything of this almost constant deterioration of the animals?—Not until this Committee sat. No one in the trade of Glasgow ever heard of everything being so unsatisfactory as people are now trying to make out. We have never had complaints, and we always understood that they were well pleased with the way in which the cattle were carried.

5219. You have had no demands for increased appliances or elaborate fittings, or complaints, of damage?—Nothing has been put before us in that way?

5220. As regards the angle of walking down stages between decks, do you consider that satisfactory?—Yes, I do not think there is anything to complain of in that.

5221. You have no difficulty in getting the animals out?—None at all.

5222. Is this the letter that you refer to as having been received by you from the Society for the Prevention of Cruelty to Animals: "Gentlemen, I have been requested by the Committee of the Ulster Society for the Prevention of Cruelty to Animals to inform you that they have carefully considered the matter of the goad and they think it such a barbarous instrument that they could not think of permitting its use"?—That is the letter.

5223. Can you give me the date?—I will give you the letter, it was the beginning of this year, the 23rd of February 1894.

5224. (Sir W. Kaye.) Your firm has had large practical experience now in the carriage of cattle by sea for a number of years, has it not?—For the last 70 years almost, carrying cattle.

5225. Am I right in saying that the arrangements made on your vessels is done with a view of carrying them as safely as possible?—When we build a new vessel we improve it, as far as cattle carrying is concerned, as far as possible.

5226. You are aware that there is a maximum limit to the size of the pens fixed by the Order in Council?—Yes.

5227. Do you consider that it is quite satisfactory?—Quite satisfactory.

5228. And, according to your own impression, it would be better not to have a hard and fast rule as to

the size of the pens, but rather to have a happy medium?—It would be impossible to say that all pens should be one certain size.

5229. Your arrangements are made in accordance with the provisions of the Order in Council?—All our steamers hold certificates from the Privy Council.

5230. (*Mr. Watson.*) One other question with regard to the alley-ways that you spoke of 'tween decks; is the object of that alley-way for the men to go along so as to communicate with the different parts of the hold, or for bringing disabled animals along?—To communicate with the different parts of the hold.

5231. But in the case of removing animals you must take down the sides of the pens whether alongside an alley-way or in any other part?—Yes.

5232. (*Chairman.*) You had formerly paddle steamers, had you not?—About 15 years ago.

5233. I suppose you carried cattle then, too?—Yes.

5234. Did you find any complaints?—It was before my time. I am hardly prepared to speak of it.

5235. Because we have heard of steamers not very well adapted for carrying cattle?—No, we find that we carry cattle satisfactorily with screw steamers.

5236. With regard to battens we have had evidence; you do not distinctly say, but I imagine that you do not think you could have them athwart ship?—No I do not think it would be advisable.

5237. About the gangway, you mentioned that you have got a 50 feet gangway; we were told by several witnesses that there was a good deal of cruelty went on at the gangway, especially in long gangways, that it was necessary to give the animals such a thrashing at starting that would carry them through to the next stick at the other end of the gangway?—I find from what I observe, the custom is that the men stand at the outside of the gangway and they beat the gangway with their sticks, and the noise made in doing that is quite sufficient to make them go on without touching the cattle at all.

5238. This man was a drover and he suggested that planks should be put alongside the gangway so as to allow those who may be driving them in to give them the goad?—There is such a thing as that on the gangway. I do not know that the plan shows it.

5239. There is a method of getting along the side of the gangway?—Yes. I am not sure that it shows itself on the plan, I do not think it does show it.

5240. Is the side of your gangway solid?—Solid.

5241. We have been shown by Mr. Rooth his system of cattle fittings in ships which have been taken up by the Cattle Trade Association in Ireland, and they strongly urge its adoption. Mr. Rooth is here and will show you some of the fittings that he suggests and the Committee will like the opinion of a practical shipowner like yourself upon those fittings. Will you tell us what it is that you chiefly object to with reference to the cross battens?—The chief objection is the dirt that would be gathered; then you must remember that we only carry the cattle one way, we have the decks full of other traffic on the other journey.

5242. The cargo would make dunnage?—We do not want dunnage, we have long angle bars that we carry there.

5243. Then it is the room that you object to?—And the dirt that they gather.

5244. Do you object to fore and aft battens?—No, they do not interfere; but cross-battens would interfere.

The witness withdrew.

Mr. JAMES CUTHBERT called and examined.

5261. (*Chairman.*) You represent the Clyde Shipping Company, do you not?—Yes.

5262. Your company carries between Cork, Waterford, Limerick, and Glasgow?—Yes.

5263. Will you please tell the Committee the average length of the passage, say from Cork to Glasgow?—From Cork the average length of the passage is 30 hours.

5264. And then in bad weather that would be lengthened out to what?—Coming north, we have generally fair winds; as a rule, they are south-westerly

5245. (*Mr. Watson.*) Would they be any use if you had cross battens?—No.

5246. Is there any pitching motion to want an animal to stand fore and aft to meet it?—I do not see that there would be.

5247. I assume that the fore and aft battens should be put in to enable the animal to keep its footing?—Yes.

5248. But does it take a pitch in such a way as to want it athwartship?—I do not think so.

5249. (*Mr. Booth.*) If a beast is standing fore and aft and the ship is rolling, you would require fore and aft battens?—The fore and aft battens are not very wide apart, they do give a foothold to the animal.

5250. (*Mr. P. Smith.*) How much apart are the fore and aft battens?—About 2 feet, or 2 feet 6 inches, I think.

5251. (*Chairman.*) I believe you have seen this model of fittings proposed by Mr. Rooth (*showing model to the witness*)?—Yes.

5252. It has been put forward with a strong recommendation by the Irish Cattle Trade Association, what is your idea of it, and what criticism have you to make as to its feasibility?—The great exception I take to it is the risk of these collars. They are made, I observe, with chains to slip up and down; when the animal falls the collar should fall with it, but I very much fear that this would not work, and that the animal would be strangled.

5253. There is another point, it provides a separate stall for every two animals. An objection has been urged which it appears to me would apply to it from a ship owner's point of view, namely, that it would involve a large amount of extra fittings?—Naturally.

5254. And extra expense?—A great deal of extra expense in making the fittings in steamers that are already built.

5255. Take the other case of a new steamer?—Even in a new steamer the expense would be more the more fittings there are required. Then it reduces the carrying capacity of the steamer; you will not get so many cattle in, and I understand from Mr. Rooth himself that he admits that.

5256. He tells us that it has been fitted up partially on board a vessel trading, I think, between the Isle of Man and Liverpool; did you happen to see anything of it?—No, I have never seen it.

5257. (*Mr. Watson.*) Were you aware that Mr. Rooth proposed an india-rubber pad an inch thick, lined with springs behind each beast?—No, he did not tell me that. I should consider this kind of fittings an impracticable affair; it is too complicated.

5258. (*Chairman.*) Do you see any objections to fastening the animals with their heads towards amidships?—Our reason for fastening them towards the side is that we have a much firmer fastening.

5259. Do you know anything about the Atlantic cattle trade?—No, I cannot speak of it.

5260. It has been suggested that there should be some regulation to prevent cows in calf being sent on these sea voyages, as the consequence often was to induce premature labour, and to give rise to a great amount of distress on board ships. Have you come across many cases in which cows have slipped their calves in transit?—I have no experience of cows in that state.

winds; we very seldom exceed that; they may on an occasional time go to 36 hours.

5265. Can you tell us what the longest voyage has been this year?—I could not tell, because we have had very ordinary voyages from Cork.

5266. Take Waterford, what is the length of the voyage?—Twenty-four hours.

5267. Then take Limerick, what is the length of the voyage?—Thirty-six hours.

5268. Take a bad voyage from Limerick, what is the longest time of the voyage from Limerick?—If we are

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able to go out, we can generally make the voyage in 36 hours, but oftentimes we are delayed for a day or two days in coming out.

5269. When you are delayed in coming out, are you ever delayed after having shipped cattle?—We frequently, when we have cattle on board, have to lie for a day or two in the Shannon.

5270. That does not occur in the other ports at Cork or Waterford?—No.

5271. Have you any remarks to make as to the accommodation of the different ports from which you trade? Cork, in the first place, is there provision there for the reception of cattle and the watering and feeding them previous to shipping them?—At Cork we have a cattle yard, where we give accommodation for between 200 and 300 beasts.

5272. That is the Clyde Shipping Company?—Yes.

5273. Is there any public company?—Each company has to provide its own cattle yard, where cattle are inspected before shipment.

5274. And in the yard you have a supply of water, have you?—Yes, and it is divided in pens, and there is a water trough in each pen.

5275. Do you give them forage if you are asked to do so by the owners?—We frequently do so.

5276. You arrange to give forage on demand?—We have always a supply on our premises, and if we are asked to feed the cattle when they come into the yard, we do so, and charge the owner with the expense.

5277. Is there a large per-centage of owners that avail themselves of that?—Not many, because the cattle are frequently bought at the fair the same day as they are shipped.

5278. At a fair in Cork?—Well, in a fair up the country, 50 to 70 miles up country, and they come down by rail to be shipped the same evening.

5279. In the Cork cattle trade, as I understand from you, the usual thing is for the cattle to be bought at a fair up country several hours from Cork, and they come down and are shipped the same evening, and even without your being asked you feed them?—That is so.

5280. Have you any arrangement on board ship for feeding or watering?—We make it compulsory on the owner that he should pay us a certain sum, and that we should provide fodder for the cattle on the voyage.

5281. How do you manage to do that, how do you pen your animals, and how do you get at them to feed them?—I have brought here the plan of one of our steamers, in fact I have got the plans of two (*producing the same*), that shows an alley-way along the whole length of the steamer.

5282. In the first place, tell us where you carry the cattle?—We carry them on the main deck unless we have more than the main deck will contain. Then we put them in the main hold, both in the 'tween decks and the lower hold.

5283. And you have an alley-way along the main deck?—Yes.

5284. And in the 'tween decks and lower hold?—In the 'tween decks and lower hold. I have got a plan.

5285. Have you got an alley-way?—The alley-way is shown there.

5286. That is on the main deck?—Yes.

5287. You have got similar alley-ways in the 'tween decks?—We have.

5288. Are your steamers paddle or screw?—Screws.

5289. How do you fix the cattle, do you tie them up?—We tie them.

5290. Heads inwards or outwards?—Amidships, heads fastened in.

5291. Do you have them alongside the alley-ways?—Yes.

5292. How do you water them—in buckets?—We have troughs with hooks that we fit on the cattle boards; I think they are shown on that plan; they are wooden troughs. I have them shown on this plan at all events.

5293. On the main decks you have got alley-ways fore and aft bringing all the pens into communication?—We have.

5294. On the main deck and in the hold, the alley-ways do not communicate with all the pens, but, as I understand it, by shifting the cattle from one pen to another, you can bring all the cattle in turn before the alley-ways in order that they can be fed and watered?—That is so.

5295. Then as to the amount of feeding that they get, do you find that they take the food readily on board ship?—They always take what is provided, and there is a certain quantity. We provide less from Cork and Waterford than we do from Limerick. On a Limerick voyage we always put a double quantity on board in case they should be delayed.

5296. Have you any idea what the allowance is for the beasts that are shipped?—From Waterford we provide half a stone per beast.

5297. Half a stone of hay?—Hay. From Limerick we would provide a ton of hay for 100 cattle.

5298. That would give somewhere about 22 lbs. for each beast, just a stone and a half?—Yes.

5299. Then from Cork?—Twelve lbs. per head.

5300. Why do you make the allowance from Waterford so much smaller than the other two?—We carry very few cattle from Waterford as compared with what we get from Cork, and the shippers there are not inclined to pay any more than they can possibly help for the supply of food.

5301. So that you put the cattle out?—We can only provide what we are paid for.

5302. You are in a position to tell us what your opinion is as to the necessity of this thing, you think it necessary, or you would not feed the cattle. Do you think it necessary that the cattle should be fed after coming the journeys that they do before they reach your ship?—It is owing to the longer voyage that we consider the necessity arises.

5303. What do you consider the limit of time at which the necessity would arise?—I am not prepared to say, we have no connexion with short sea routes.

5304. But your time is 24 hours?—Yes.

5305. In a 24 hours' voyage there should be feeding?—We do, and for another reason, we only carry the cattle at our own risk, and we think that the owner should do his part in seeing that the cattle are fed and that they may not give way during the voyage for want of food.

5306. But you insist upon his feeding them?—Yes.

5307. What would be roughly the cost of a stone of hay, or the ration that you give those animals?—Hay varies much in price, at present it is 5s. per cwt.

5308. (Mr. Booth) That is about 7½d. per stone?—Yes. In addition to hay we supply straw equal to one-third as bedding, and the cattle also eat a good proportion of it. The price of straw is 3s. 6d. per cwt.

5309. You give them straw for bedding, that assumes that the animals have to lie down?—If they wish to do so.

5310. In fact, in a long voyage it would not do to keep them up?—The class of cattle that we carry—the great bulk of the cattle that we carry are old cows, and they require to get rest on the voyage.

5311. How does it come that you carry chiefly old cows?—From County Clare and Kerry they seem to have no other market than Scotland for them.

5312. Do they come over for the butcher in Scotland?—I believe they make sausages of them.

5313. Then these cows lie down. Do you take any special precautions to prevent them being trampled upon?—We just put fewer of them in a pen.

5314. It has been suggested that if you had a pen it was a disadvantage that the cattle lacked the support that they would have if they were more tightly packed?—Our pens are various sizes, we seldom go to the maximum.

5315. What is the average size of your pens?—About 12 feet.

5316. How many cattle do you put in a pen; how many old cows?—It depends altogether upon the size of the cattle.

5317. Have you any system of grading cattle?—Yes, we have different rates, from calves up to fat cattle.

5318. Then what are the different grades that you have?—Calves one year olds, two year olds, fat cattle, and old cows.

5319. You have no difficulty in arranging this grading of cattle?—None whatever.

5320. Do you keep the different grades distinct and separate. Would you take care that the shipper should have his own lot kept by themselves?—Sometimes we can manage that, but if a shipper ships different grades of cattle he very often wishes his cattle to be kept by themselves in a certain part of the boat.

5321. Have you ever experienced any bad effects from the mixing of the cattle by grades of cattle? We were told that calves, or one-year old beasts, if placed with heavier cattle, were very apt to get trampled on and injured?—We carry very few heavy cattle; our trade is principally in store cattle and old cows.

5322. What sort of arrangements for embarkation have you at the several ports with which you trade; take Cork in the first instance?—In Cork, the usual way is by gangways and weirs, as shown by Mr. Watson yesterday.

5323. Have you any great depth of tide there, and have you anything to say about the incline?—We have no depth of tide at Limerick, because it is always a floating basin. In Cork the tide falls, but it is not a very deep river, it is never a steep gradient.

5324. Could you say anything as to the gradient that it is?—It is never more than 10.

5325. It is not so steep as the gradient of 30, which was shown by Mr. Watson?—No.

5326. It is not so steep as the Clyde?—It is not so steep.

5327. And Limerick is a basin?—It is a basin; always on the level of the quay.

5328. What do you say about Waterford?—Much the same, because they are floating pontoons where they load the cattle.

5329. Therefore there is nothing wrong there?—There is nothing wrong.

5330. As to the main method in getting the men employed on board, have you anything to say as to their conduct, and do they treat the beasts with consideration or treat them with unnecessary cruelty?—They treat them with every care, considering what it is to get cattle on board a vessel, but the owners or their men are invariably there themselves, and there is always a portal inspector.

5331. Have you heard what Mr. Burns said about the introduction of the goad in the place of the stick; what are your views on that point?—We always use the goad now in Ireland, as well as in Glasgow.

5332. And you have never had any trouble in the shape of prosecutions, or anything of that sort?—None.

5333. Since when have you taken to the use of the goad?—About a year or 18 months; since Mr. Nelson brought it in.

5334. And since you have adopted it it has been with satisfactory results?—Yes.

5335. Who are the men who attend to the embarkation of cattle; are they the servants of any local authority, or your servants, or who are they who attend to the embarkation?—It is our men entirely.

5336. Then when the animals are on board, who looks after them?—The crew invariably.

5337. You do not carry cattlemen?—We cannot get them from Limerick; we carry them occasionally from Cork.

5338. But you have heard what Mr. Burns said about their arrangements with cattlemen?—We have no special men.

5339. Do you give free passes for drovers on the same principle that he describes?—Whenever they are asked for.

5340. Are they often asked for?—Not from Limerick, frequently from Cork.

5341. I do not know whether it was in connexion with any of your vessels, but it was represented to us that in certain trades, I think the Limerick trade, there was an immense per centage of dislocation of tails, from the sailors twisting the tails with their hands to get the cattle up. It was explained that this was a long voyage, and those that laid down had to be got up, and were

kept up by having their tails twisted. I think that that is in one of those long voyages?—I have seen it reported in connexion with this inquiry; but it is the first time I have heard of it.

5342. With reference to one of your vessels?—Yes.

5343. You have not heard anything of it yourself; you have had no complaints?—None whatever.

5344. If such occurrences took place, would you be likely to have had complaints from the buyers?—We would, from the fact that we are responsible for injuries to their cattle.

5345. You say you give the animals straw for bedding; that would also have the effect of giving them a better foothold, I suppose?—It always helps.

5346. Could you give statistics as to the number of cattle that you carry, and as to the number of injuries that you have had?—The number of cattle dead and injured?

5347. Yes, and the total number of cattle; of course, it is no use without that?—The number of cattle from all ports last year was 25,090.

5348. That does not include sheep?—No, that is cattle alone. Do you wish the number of pigs?

5349. Go on to the injuries first, and then you can give us the sheep and pigs after?—There were 25,090 cattle carried, and the claims we had for injuries and death were equal to $\frac{1}{2}$ per cent. on the total number carried.

5350. You have not got the number killed and the number injured?—I have not got them separately.

5351. Then let us have the same thing for sheep and pigs?—Of pigs, we carried 1,183, and we had no claims for pigs; sheep, 2,682 carried, and no claims for sheep.

5352. And you carry all your cattle, sheep, and pigs at your risk?—Entirely at our risk.

5353. So that you would be pretty sure to have claims made against you in every case where there was any damage?—Most certainly.

5354. The practice of different lines varies, some lines carrying at owner's risk solely, as Mr. Burns explains, some giving the alternative, and you carrying at your own risk. Why do you adopt that plan?—When we commenced the trade, many years ago, we gave shippers the option of two rates, one at owner's risk, and the other at company's risk. In fine weather they would always adopt the owner's risk, and in bad weather they would adopt the company's risk. Even when they adopted the owner's risk, and an accident happened, they would come expecting to get compensation, and as that frequently did occur, because of the weather getting bad after leaving Limerick, and being a very rough passage, we found that we could not meet their demands when they were carried at owner's risk, and then we said: "We shall make it compulsory that you must insure them, and then you will be compensated in case of any accident."

5355. Then what does your insurance cover?—We have one rate of insurance that covers death only, and a higher rate to cover injury of every description.

5356. Can you give us those rates?—Our rates are 13s. 4d. per cent. to cover death.

5357. It is an *ad valorem* rate?—Yes; then it is 33s. 4d. per cent. to cover injury and death.

5358. What injury does your insurance cover? Are you quit of all responsibility if an animal walks ashore?—If it walked ashore on three legs the man would naturally expect us to pay for any damage that was done to it. A beast is sometimes helped ashore, and after lying for an hour or two, gathers strength, and gets on its feet, but it is not able to walk away. We treat that as a total loss, and pay them the full value.

5359. Now, in the case of accident occasioning broken ribs, or anything of that sort, what is done?—We have had claims after beasts have been out of our possession for a week or a fortnight, when the owners came to us, and said those cattle were injured, although they seemed all right when they were taken away, and we have frequently made them an allowance for that.

5360. About the size of pens, or the number of cattle that should be put into them, have you anything in addition to what was said by Mr. Burns?—We think the size of pen is all right.

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5361. As to whether cattle should be tied by the head or not, as a matter of fact you do tie them by the head?—We do tie them by the head, except the young stores.

5362. And what do you do with dishorned cattle?—Cattle that are dishorned on their voyage?

5363. No; the cattle who have no horns?—They are always stores; they are never tied.

5364. Do you feed the stores in the same way that you do the fat cattle?—They are all fed alike.

5365. What do you do about ventilation?—We depend altogether on natural ventilation.

5366. You mentioned that in some cases, especially in Limerick, you may have cattle on board 24 hours before you can start?—We are usually lying at the foot of the river.

5367. Do you find ventilation telling against the cattle in that case?—Not at all.

5368. It is generally in rough weather, I suppose, that you would be detained?—Yes, and if so there was plenty of wind.

5369. As you run right up to Glasgow, you must suffer from detentions from fogs too, I suppose?—Very seldom. Our Limerick steamer is only once a week.

5370. Then you do not consider it necessary to have mechanical ventilation?—We adopted it 10 or 12 years ago, and we would not adopt it in another vessel. We found it did not work satisfactorily.

5371. What system did you have?—It was a Roots' blower.

5372. Is that the same as that mentioned by Mr. Burns?—Yes.

5373. How did it not work satisfactorily in your case, then?—I cannot at this distant date remember exactly; but we have built several cattle vessels since, and we have improved the natural ventilation, and our captains maintain that it is thoroughly efficient.

5374. What are the gradients in your cattle gangways to the main deck and between decks to the hold?—I do not know. It is shown in those plans and sections. The scale is a quarter of an inch to a foot.

5375. It appears, at all events, to be sufficient?—There is no trouble whatever in the cattle going up or down.

5376. The height between the main deck and the lower deck is what?—It is 7 ft. in the between decks, and about 6 ft. 6 in. in the lower hold.

5377. And a good deal less towards the end of the ship, owing to water ballast, I presume?—No; the height is the same throughout.

5378. Then your cattle, I suppose, when they are landed in Glasgow have pretty well got through the hay, the food that you give them; and, I suppose, they are quite as ready for food as the other cattle are coming by lines where they are not fed?—Quite. They are fed twice a day.

5379. And in case of delays, you have sufficient reserve of food to feed them?—We have.

5380. And water?—We have always abundance of water.

5381. You formerly did not adopt the plan of feeding them, did you?—We have always adopted it.

5382. Therefore you are not in a position to compare results?—No.

5383. You consider that your sailors are competent to look after the cattle?—They are.

5384. Do you think they do it as well as cattlemen would?—Better, we believe, because frequently the cattlemen would be sick.

5385. (Sir W. Kaye.) I think you said that your experience of the shippers is that they are not inclined to pay more than they can help?—That is so.

5386. And is it for that reason they do not avail themselves of the provision that you have made on shore for feeding these cattle before they go on ship-board?—There frequently is not time to feed them; there is only time for inspection after they come off the railway before they are put on board.

5387. As a rule they do not avail themselves of it?—They do not avail themselves of it.

5388. Is it not very well known in the trade that cattle are carried on your ships at the company's risk?—It is well known.

5389. Do you not think that they very seldom fail to make claims when injuries are done?—Our statement of claims, I think, shows that.

5390. You never heard any claim made in consequence of the injury to the cattle's tails or anything of that kind?—I had a claim made last year because the hair was cut off the end of the tails, which they thought had been done on board. We repudiated it, as it was as likely to have been done at the fair, or before they bought the cattle.

5391. What was the result?—We did not pay for it.

5392. Therefore if there were broken tails you would certainly have a claim made for them?—Yes, we would have heard of it.

5393. (Mr. Watson.) You said that you carry the cattle on the main deck, the 'tween decks, and the lower holds?—We do.

5394. Do you find they carry as well in the 'tween decks and lower holds as on deck?—Some classes of cattle carry better the lower you can get them in the ship.

5395. Why?—Because there is less motion.

5396. Because of the steadiness?—It is steadier. We find the shippers frequently desirous of getting particular accommodation in the lower holds instead of on the main deck.

5397. Your ventilation of the lower holds is simply the hatchways and a system of ventilators?—Yes.

5398. Which you say you prefer to any mechanical arrangement?—We do.

5399. Why do you prefer it?—Because we have made them extra large. They have been approved by the inspector of the Privy Council, Mr. Prentice, I think, is his name, and we have from the Board of Trade Surveyor a special report in regard to the ventilation of the "Arranmore."

5400. What does the surveyor state as regards ventilation in that report?—He gives the size of the cowls; he mentions also a trunk ventilator; and he mentions also the size of the hatchway, 17 ft. 2 by 11 ft. 9 in.; and he mentions the exhaust ventilators, with the diameter of all of them.

5401. He gives full particulars, I understand?—He gives full particulars.

5402. As regards claims, you say that your claims are about $\frac{1}{2}$ per cent. of the stock you carry; that is, one beast in every 200?—Exactly.

5403. What are these claims made for, as a rule?—A broken leg, broken ribs, and sometimes the cattle are dead altogether.

5404. Have you many claims for injuries discovered after the animals are butchered in Scotland?—Not many. Knowing that the cattle are insured, they generally examine them very particularly before they take them away from the quay to see that they are all right.

5405. Then you have not often second claims subsequently for undiscovered damage at the time of the arrival?—Not often, only occasionally.

5406. I presume you would, if such were frequent, hear of it?—I have no doubt we would.

5407. As regards the trade from Ireland to Scotland, is it on the increase or decrease?—Last year it was on the increase with us, on account of the restrictions on Canadian cattle, I believe.

5408. Do you know of any decrease at any time from the condition in which they are landed in Scotland?—We have not experienced any decrease.

5409. You have had no falling off in trade in consequence of carrying them badly?—None.

5410. A witness stated that 10 to 20 per cent. of the cattle had their tails broken. What is your opinion on that subject?—I think I said before if such had happened we would be likely to hear of it.

5411. You have not heard of it?—We have not had such a complaint as that.

5412. Have you ever heard of a large breakage of tails?—Never until I saw it in this report.

5413. Do you agree with Mr. Burns that it would be impossible to land all cattle in Glasgow in one place?—I think it would not be a very practicable scheme at all.

5414. You must land them in your berth where you arrive?—Yes, for the same reason that Mr. Burns has explained, that we have passengers and perishable goods which require to be delivered at once.

5415. And to make all the ships go to one berth would be attended with delays and inconvenience?—Yes, for there would probably be a dozen steamers coming up in the morning between 6 and 8 o'clock, and they would have to wait their turn.

5416. Have you had many demands from the trade for improved accommodation?—None.

5417. Do you think the trade generally would be willing to pay largely for providing stalls for the cattle on board instead of pens and fittings of that kind?—All I can say is, that we have to compete with the rail carriage to Dublin and steamer from Dublin to Glasgow, and if they think they can save sixpence or a shilling by sending them that way we do not get them.

5418. You mean it is decreased freights they are looking for rather than increased?—Yes.

5419. (*Mr. Booth.*) With regard to your plans you have which are of the "Arranmore"?—The "Arranmore" and "Inisitrahull."

5420. Do they represent generally the whole of your fleet, or are there many ships in which we should not find the same arrangement?—The same arrangement is in the whole of the fleet.

5421. For instance, you have the alley-way along the main deck in every ship?—We have.

5422. And you have the gangways from deck to deck arranged as these are, fore and aft?—Exactly in the same way.

5423. In all ships?—In all ships that are fitted in the hold, but we have a few that are not fitted for cattle in the holds.

5424. Those are not fitted for cattle in the holds?—We prefer not to carry cattle where we have not fittings for them.

5425. No, but you carry them in the 'tween decks?—In the 'tween decks as well as the hold.

5426. You call that the hold (*pointing to plan*)?—Yes.

5427. How many vessels do you carry cattle in the forward hold, the lower hold?—It is only the main hold that we carry any cattle in in any of our steamers. We have a forward hold and an after hold, but we never carry cattle there.

5428. Do you ever carry sheep or pigs on the weather deck?—We have carried sheep occasionally.

5429. With what result?—Very good results.

5430. Do you carry ever, except in fine weather, on the weather deck—do you ever carry on the top deck except in fine weather?—Never.

5431. And you would not propose to do so?—We would not do so.

5432. With regard to some of the points Mr. Burns made, in your case your rule about attendants is perfectly different from his; you trust to the crew?—Yes.

5433. Do you consider that you man your ships fuller than other vessels in consequence of the crew having to attend to the cattle as well as to the work on deck?—Quite as good. If your ship is full of cattle your crew cannot do much else than keep their watch; therefore they are at liberty in every way to attend to the cattle.

5434. What is the number of your deck hands on these ships, like the "Arranmore"?—There are eight sailors, a carpenter, two mates, and the master.

5435. So you have four men for a watch?—Yes.

5436. And if you have a vessel full of cattle you consider there are enough of those four men to be sent down to attend the cattle?—In bad weather we frequently turn out all the men. The men get a premium if they can bring in their cattle in good condition.

5437. All members of the crew?—All members of the crew share alike.

5438. They get some recompense—some premium?—Yes.

5439. Then with regard to the ventilation, you speak of having 12 years ago put in one of the Roots' blowers; can you tell us whether so long ago as that it was the same thing as it is now—whether it has not improved?—I have not seen the present adaptation of the Roots' blower.

5440. You have not gone into the question of that ventilation since that time?—Our superintendent engineer went into it at the time we were building other steamers, and he came to the conclusion that the natural ventilation was quite sufficient.

5441. Mr. Burns told us about discharging at Glasgow, that in their case their ships always over-lie in order to get more room at the berth, of course; do you do the same?—That is not the case with our ships.

5442. You do not over-lay?—No.

5443. What is about the greatest steepness of your gangways? Can you give us any information on that point?—I cannot.

5444. But you do discharge close alongside the quay?—Yes.

5445. (*Chairman.*) What is the length of your gangway?—The length of our gangway is 30 feet.

5446. (*Mr. Booth.*) We have heard a great deal about the great difficulty with steep gangways at Glasgow in discharging at a certain time at certain heights of the river and the tide?—I am frequently there myself and see the cattle come out, and there is no difficulty.

5447. Do you suppose you have been there when the gangways are steepest?—With our steamers we cannot always get up at low water, and we frequently have to delay the passage for an hour or so, so as to come up with the rising tide, so that the water is always improving.

5448. In that case the boat is lying waiting?—The captain regulates his voyage from Limerick or Cork or Waterford, as the case might be.

5449. Is it your practice, as it is in Mr. Burns's case, to sometimes land cattle at Greenock in case of fog?—In case of fog we have done it, but very seldom.

5450. Then you show on the plan of the "Arranmore" the alley-way along the main deck; is that the same on all your boats, say those that come from Waterford, for instance, the shorter voyage?—In all the boats the alley-way is there.

5451. They all have it on that one deck the same as shown on this plan?—Yes.

5452. Then with regard to the tying of the cattle, you speak of the bedding; is there any difficulty on your boats about having the cattle tied and at the same time their being able to lie down?—With old cows, if you wish them to lie down, you could not tie them very well, and it is only old cows that would lie down, or that we would be inclined to allow down.

5453. I do not quite understand. You say you do not tie store cattle?—We do not tie store cattle.

5454. (*Chairman.*) Then do the store cattle not get down?—As a rule, they keep their feet well.

5455. But you give them bedding?—They have bedding, and it gives them a better foothold.

5456. (*Mr. Booth.*) The bedding presumably is to enable them to rest and lie down rather than to give them foothold?—It is if we were not very crowded, if we had plenty of room. Owing to the fact that our voyage is so long, we give them lots of room.

5457. You spoke about the arrangements of the Irish ports; have you personally seen the shipping of the cattle at your Irish ports?—Frequently.

5458. At all the ports?—At all the ports.

5459. Then with regard to the forage that you have on demand at the yards, I do not know that you spoke specially about the water, except that there was water in all the pens, and you said that the cattle were often shipped without having any forage asked for, so that they were shipped without being fed; are they also shipped without getting water?—Of course.

5460. It does not follow that they get water because there is water supplied?—They may have an opportunity while they are being inspected in the pens.

5461. They may or they may not?—They may; the water troughs are there.

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5462. You said your pens seldom exceed—I think you said they never practically exceed—12 feet in length?—I think that is so on the plans I have shown; very few are the maximum length.

5463. What is your principle of the division boards and the stanchions; how do you make fast your shifting boards to your stanchions and to the side of the vessel?—All steamers are practically fitted alike with grooves.

5464. For instance, you have iron stanchions?—Yes.

5465. Some vessels have iron stanchions?—They are all iron stanchions with us.

5466. And you have the groove as a portion of the casting on the stanchion?—Exactly.

5467. How is the shifting board fixed to the side of the vessel?—In the same way, with an iron groove.

5468. The iron grooves are permanent fixtures to the wings of the ship?—Permanent fixtures.

5469. Then do you use a bolt or pin to hold the shifting board in the groove?—We use a bolt into the groove in the deck, to insure the iron stanchion being perfectly tight.

5470. That is not what I asked. I asked whether you put a pin through the groove and through the shifting board, to prevent its being lifted?—There is no provision of that kind.

5471. The beast can lift the shifting board if it puts its head under it, if it wants to do so?—It would be very difficult to get its head under.

5472. That is the fact; you do not use a pin hold?—We have no fixing of that kind.

5473. And as far as you are aware, the Board of Trade inspector makes no remark of that kind, that the shifting board should be fixed with a pin?—Not so far as I am aware.

5474. With regard to the question that was asked about the falling off in the trade to Glasgow, can you say whether there has been any falling off in the trade of fat cattle carried towards Glasgow?—We carry very few fat cattle.

5475. How is it in comparison with what it used to be some years ago?—I think we carry quite as many now as before.

5476. You think the proportion of fat cattle as far as your line is concerned has not diminished going to Glasgow?—It has not diminished, I believe.

5477. Have you any rule about sending, or not sending, cattle ships to sea in times of storm and bad weather?—We had one or two bad voyages in the beginning of this year, and the loss was so great that we instructed our Limerick agent that he was not to take cattle until the weather improved. I happened to be in Limerick at the first week in March, and a man brought forward 30 cattle, and he wished them shipped, and I said then we would not do so. I received a great amount of abuse from him for it.

5478. What are your general instructions to your agents, say, at Waterford, in regard to that point; have you any general instructions on it?—In Cork and Waterford it is not so necessary, because the weather is not so bad as in the west of Ireland.

5479. You mean they are more exposed?—They are more exposed to the heavy Atlantic swell in the west of Ireland.

5480. But still there are swells on the south of Ireland as well as on the west?—There are, but they must use their discretion.

5481. That is to say it rests with the captain?—It rests with the captain.

5482. (Chairman.) In reply to one of Mr. Booth's questions, you said that your loss had been so great in the earlier months of this year that you had come to that decision; could you tell the Committee what was the amount of your loss or the number of casualties?—I think we paid 400*l.* for the loss on two voyages.

5483. In the beginning of this year?—Yes.

5484. From Limerick?—From Limerick.

5485. Could you not give the details of the loss?—I have not got them with me.

5486. (Mr. Booth.) Then with regard to the animals being tied towards the centre of the ship, do we understand they are fastened with the rope going through a hole in the cattle board?—Yes.

5487. Have you a steamer in your line called the "Copeland"?—No.

5488. You have no such steamer running?—No.

5489. Do all your vessels carry cattle?—They all carry cattle more or less.

5490. (Mr. Cullen.) You heard Mr. Burns' evidence, I believe?—A part of it.

5491. What part of it?—The latter part of it.

5492. What you heard, do you generally agree with?—I do.

5493. What are the main differences, if there are any, in which you disagree with him, or do you generally approve of the evidence?—I generally approve of the evidence.

5494. This is with reference to the Glasgow trade, I suppose, entirely; do you agree with this: Mr. Lishman stated in Question 1635 that cattle coming from Derry and Belfast come in better order than those from Dublin and the south of Ireland?—I cannot speak about the Dublin trade, I am not in it. I have explained to you what our position is in regard to the south of Ireland.

5495. There is another main difference appears to me. You acknowledge the responsibility for the transit of the cattle, and Mr. Burns does not?—Yes.

5496. Yours are insured?—Yes.

5497. How is that insurance regulated; is it you determine the damage, or is it an outside party?—The damage is determined by the receiver of the cattle, and he claims according to his loss.

5498. And do you pay according to that claim?—Exactly.

5499. That is, whatever claim is made you pay?—We pay.

5500. (Chairman.) You explained before that the insurance is *ad valorem*, did you not? It is 13*s.* 4*d.* per cent. in case of death, and 33*s.* 4*d.* in case of injury?—Yes, and when a claim is made for an injured beast, we have to pay whatever it is; it may be 30*s.*, it may be 1*l.*; and if a beast is killed, the value is stated before the beast is shipped, and we have to pay exactly on that.

5501. (Mr. Cullen.) That is the 13*s.* 4*d.* against death?—Yes.

5502. Then it is 33*s.* 4*d.* death and injury?—Exactly.

5503. Who determines that injury?—The receiver of the cattle.

5504. He makes the claim?—Yes.

5505. And do you always pay that claim?—Yes, we do.

5506. It was stated here that until this Committee was appointed, we never heard of any complaints about the Irish cattle traffic, or that it was not known until this Committee was appointed by the Government. Is it not within your knowledge that you could have acquainted yourself with it, knowing that a report of this kind was published five years ago (*handing report to the witness*)?—I read this report at the time.

5507. And nothing came of it?—We have shippers of cattle who come to us and say that they would rather ship by us because we carry them better, and we are not so crowded as others.

5508. The point that I am on here is that it is generally stated that it is only just now, that this is only a recent idea of the Irish cattle trade?—It has always been our interest to take the best care of the cattle.

5509. Yes, naturally. You saw that report five or six years ago?—Yes.

5510. So this is not a new thing?—I saw that report at the time.

5511. With regard to the ventilation, Mr. Burns described this Roots' ventilator as very efficient in his case?—Yes.

5512. I think I understood him to say it was a forced draught, not an exhaust draught; was yours a forced or an exhaust draught?—Forced, in the same way.

5513. And it did not act, not practically?—It did not; well, we did not repeat it in the next steamer we built.

5514. The reason you did not repeat it was that it was not so satisfactory?—As the natural draught.

5515. Then you think that the men in charge of cattle should be entirely under the control of the captain of the ship or of the company?—Certainly.

5516. Because it would be quite impossible to manage them otherwise on shipboard—to make them do their duty?—You are quite right.

5517. Do you make differential rates for stores and fat cattle?—They are classified; store cattle are cheapest of all and fat cattle are dearest.

5518. But they are classified by the company?—They are classified by their size and age.

5519. According to the company's view?—Yes.

5520. By their agents?—By our agent.

5521. So that practically the rate is a variable rate?—It is a variable rate.

5522. (*Mr. P. Smith.*) You have told us that you have two rates of insurance, one for death and the other for injury or death; you insist upon one of them being used?—Yes.

5523. Which is most used?—The cheaper, to cover death only.

5524. You insure yourselves?—We take the risk ourselves.

5525. Do you have keen competition from the west?—We have the Dublin route.

5526. The competition with you is the railway and short channel passage?—Exactly; we have no other steamers from Limerick, Cork, or Waterford competing with us.

5527. Does the competition take the form of cheapness, or of best accommodation?—The form of cheapness; and the shippers look at it in this light: if they ship by us, they are bound to insure, and they are bound to pay for feeding; and if they rail to Dublin, they are not bound to insure, and they are not bound to pay for feeding.

5528. Then do you think they do not look at in the light of which route will put their beasts in the best condition into the market in Glasgow?—I do not think so.

5529. (*Chairman.*) You said that they were not bound to pay for feeding. Is there not some regulation for compulsory feeding on the railway?—No; they do not require to pay for feeding by railway.

5530. (*Mr. P. Smith.*) They attach more importance to cheapness in the freight than to the good condition of the beasts?—It looks like it.

5531. It looks as if they were penny-wise in the matter?—It does.

5532. Then with regard to the Broomielaw, I understand you agree in what Mr. Burns' evidence has been?—As to landing of cattle at our berths, I do.

5533. Much the same circumstances prevail at your berths as at the Burns' berths?—Exactly.

5534. Then in regard to ventilation, you trust entirely to the natural ventilation?—Entirely.

5535. How does that work in fogs, or when you have got a following wind?—In our trade, with the long sea passage, either from Cork or Limerick, it is very seldom that there is not a sufficiency of wind to give ample ventilation.

5536. Even when you have got a following wind?—Yes.

5537. It is about the same pace?—Yes.

5538. As a fact, you do not find beasts when they are out at sea suffering?—We do not find them suffering. In fact, the beasts travelling in the holds are frequently fresher than those carried on the main deck when they are landed.

5539. What do you attribute that to?—They are often kept warmer, and they are just as well fed.

5540. How about fogs on the Clyde?—That does not happen so very often in our experience. Only once last winter we landed our cattle at Bowling, and because we did so the cattle dealers maintained that their beasts were injured by being landed there and having to be walked up, and they asked us to make them compensation, and we did make them some allowance.

5541. These allowances that you make, I suppose you do it mainly on grounds of policy?—Yes.

5542. The question of legal liability does not turn up so much?—It turns up more in our case probably than in any of the others, seeing that we make the insurance compulsory.

5543. Your arrangements for carrying cattle, altogether, come much nearer the Atlantic system than the short channel passages do?—We find that a passage from Limerick is oftener a worse passage than the American one; we have more broken water.

5544. Can you give any idea of the diminution of carrying capacity involved by the additional precautions that you take as against the short channel steamers?—I could not say, because it is left very much to the discretion of the agents and of the captains at the time the cattle are shipped, to judge of the weather and the state of the barometer.

5545. I do not know whether you think this a fair question, but you need not answer unless you do. Do you think it would be right to put on the short channel steamers the same kind of conditions of arranging the beasts that you comply with yourselves in your long passages?—I do not think it would, nor do I think it is necessary.

5546. You do not think it necessary on the short passages?—No.

5547. You think the difference of the passage and all that makes it right not to tie the beasts, and to arrange them in the kind of way that we have heard described by Mr. Burns?—I think the circumstances are entirely different.

5548. So different as to justify the different arrangements that they have?—Exactly.

5549. (*Chairman.*) You say that you make it a point always to allow plenty of space per animal in consequence of the length of the voyage, so that they may lie down; what space do you consider necessary for an average animal, or take any of the greatest—your fat beasts?—Some time ago we took out a table, showing the number of cattle carried in different voyages, and from different ports, with the amount of accommodation on board; in some cases it was 18 square feet, and in others 14.

5550. Per head of cattle?—Per head of cattle.

5551. I suppose for the purposes of designing your ship you must give the builder instructions as to the amount of space that is requisite per head?—We specify the space that is to be fitted up for cattle.

5552. Beyond the area you have no table; you can give us no information as to the length and breadth per head of cattle that you provide for?—No.

5553. (*Mr. Booth.*) In the plan of the "Arranmore," which you were showing us when the chairman was asking you with regard to the alley-ways, you showed that there were one or two pens that you left in order that the beasts might be shifted. Can you say from your own knowledge that those pens are always left?—They are always left in the Limerick boats.

5554. In the other boats?—In the other boats we never have the same number of cattle on board any steamer as to crowd us up.

5555. Would that statement that you made about pens being left for shifting the animals apply only to the Limerick boats?—We are never crowded in the Cork or Waterford trade.

5556. You are never crowded there?—No, and only from Limerick four times a year, probably at Munster fair.

5557. Then on the Cork and Waterford boats you can practically, and do practically always, leave one or two pens empty?—We do.

5558. (*Mr. P. Smith.*) Do your Limerick boats go round the north of Ireland?—Yes.

5559. (*Mr. Cullen.*) On that model or drawing that you showed us you showed cattle being tied amidships, with their heads amidships?—Yes.

5560. You found no objection to that?—No.

5561. (*Chairman.*) You have seen this model of cattle fittings, have you not; what is your opinion about that (*producing model*)?—I think it is altogether impracticable. Every steamer in the cattle trade is also engaged in the general carrying trade, and if she had to find room for all these fittings she would not be able to carry anything else. I think also if two cattle were in a stall and one beast lost his footing and got down, it

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would knock away the other beast, and would probably injure itself in the limited space.

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5562. You do not happen to know of that vessel in the Isle of Man and Liverpool trade that has been fitted up in this way?—No; I expect it must be a very limited trade that is done in cattle between those two places.

5563. (Mr. P. Smith.) Those fittings are more complicated than the fittings in the Atlantic trade; do you know the fittings of the Atlantic trade?—I have not seen the fittings there.

The witness withdrew.

Mr.
W. Beattie.

Mr. WILLIAM BEATTIE called and examined.

5566. (Chairman.) I believe you are agent for the Aberdeen Steam Navigation Company of Aberdeen?—I am.

5567. Your steamers leave Aberdeen three times a week during the winter months, and twice a week during the summer, do they not?—They do.

5568. How is it that they go oftener in the winter months than in the summer?—We have larger cargoes of goods then—much heavier cargoes.

5569. Every steamer carries live cattle?—Every one, more or less.

5570. Of course you do not carry anything but fat cattle?—It is very rarely that we have any lean animals.

5571. What is the maximum number carried by any of your vessels?—92.

5572. The total number carried during the year varies in some years, as few as 1,200 to as many as 3,500 in others?—That is the case.

5573. You have mentioned that the maximum number in any ship is 92?—Yes.

5574. How are your vessels fitted up?—They are fitted up with stalls suitable for tying up that number on board the ship.

5575. Are the stalls separated from each other?—No, four or five animals may be put in one pen by themselves; these four or five are separated from the others by cross stalls, and every one, in fact, is tied up so that they cannot move about to jostle upon one another.

5576. Before shipment, are the cattle tied up in sheds?—They are.

5577. And fed?—Yes.

5578. By whom is that done? Is it done in your yards?—It is done in our yards in Aberdeen, for the cattle come to us, as they invariably do in Aberdeen, a few hours and, perhaps, a day and sometimes two days before the steamer sails.

5579. Do you say that they are well treated and well fed before they are embarked?—Yes.

5580. Who pays for the feeding?—We charge that to the owners of the cattle.

5581. Then, you do not give the owners any option, and you feed the animals as a matter of course?—We feed the animals at the owners' expense, but we make no profit by doing so.

5582. I am merely speaking of your system; you give the owners no option, you feed the animals at their expense without giving the owners the option of refusing?—That is so.

5583. In fact, the feeding is as much a part of your charge as the freight?—Yes, when they require it. We never send an animal hungry on board a ship.

5584. I suppose they do not come from any great distance to you, do they?—The large proportion of them would come by rail from 20 to 50 miles.

5585. And they would not be bought at fairs, I suppose; they would come direct from the breeders or the feeders?—They would come direct from the farmers.

5586. Do you consider that even in that case it is necessary in the great majority of instances to feed them before they go on board?—Most certainly it is.

5587. When they are ready for shipment you put them on board and you do so with certain precautions?—Yes.

5584. (Chairman.) One of the witnesses yesterday suggested that there should be some regulation to prevent cows in calf being sent on these sea voyages, because the consequence was to induce premature labour, and to give rise to a great amount of distress on board ships. Have you come across any cases in which cows have slipped their calves in transit?—Our experience is that if they calved, and the cow did not survive, we had to pay for it when it died on the voyage.

5585. Have you had many cases in which that accident has occurred?—Not many.

5588. Will you please explain what the precautions are?—We always limit the number to be put on board at one time to eight or ten animals, as many as fill up say two pens.

5589. Of course it is of great importance with these valuable fat cattle that they should not be beaten or knocked about more than can be helped; how do you manage with your drovers and the men who put them on board?—If the animals are gently dealt with and not spoken loudly to they will go almost like lambs, but when you begin to hoot and holloa to them, then they get timid and frightened and run in all directions.

5590. But are the men who put them on board your own servants?—They are our own servants. When the animals are on the farm the cattlemen there are usually very silent men, who never have a word to say to the brutes except "Turn this way," or "Turn the next way," and they never hear a loud noise, so when the animals come to us we treat them in the same manner that they have been accustomed to.

5591. I understand the deck of your steamers is divided into pens suitable for four or five beasts?—Yes.

5592. They are provided with footholds?—Yes.

5593. These footholds are, I assume, fore and aft, and fore and aft only?—Only fore and aft.

5594. These beasts are fed with hay and water during the voyage?—Yes, they are.

5595. The length of the voyage is 36 hours?—Yes.

5596. How much hay would you consider is necessary for a bull during the voyage?—I could not exactly state that.

5597. Of course we did not give you an opportunity of getting this information?—I do not know the exact quantity. I should guess it would be about 20 lbs. of hay for each animal for a voyage. That would be nearly what is known in the north as a stone of hay for each animal during the voyage.

5598. When you are embarking those beasts you are careful, I suppose, about the incline of your gangways?—In Aberdeen the incline of our gangway is very little. Our ship is in a wet dock and she is always near the same level so the incline of the gangway is very little, sometimes it would not be over two feet upon 15.

5599. On board ship have you cattlemen to take charge of the cattle?—Yes, there is a man on board ship who does nothing but attend to the live cattle.

5600. Where are the cattle stowed, altogether on the main deck?—Yes.

5601. None in the 'tween decks?—None.

5602. How are they sheltered?—I may say that the cattle in the alley-ways are covered, but those in the "wells" of the ship in front of the poop and aft of the fore-castle, are exposed to wind and rain. The bulwarks, however, are so high, that it is very seldom seas wash over.

5603. And you have no complaints about their getting inflammation of lungs from exposure?—I never heard of any such thing.

5604. Those cattle from Aberdeen have been accustomed to being carefully housed?—They are very generally housed.

5605. But you do not find that they suffer from exposure on your vessels?—Not unless it be a very severe storm.

5606. In what season have you the greatest cattle traffic—in winter or in summer?—Say from the beginning of December on to the end of April. We carry nearly 100 cattle every week.

5607. That would show, at all events, that the cattle do not experience any bad effects on board your ship?—I should think not.

5608. You have, of course, to compete with the railways?—We have.

5609. What is your freight as compared with the railways?—16s. a head.

5610. What is the railway rate?—The railway rate is 25s.

5611. On the railways, do you know whether the cattle are fed?—Yes, the cattle are fed before they leave Aberdeen, but not during the journey.

5612. How long is the railway journey?—About 32 to 34 hours, I believe.

5613. The railway journey?—Yes.

5614. Nearly as long as your own?—Yes, nearly as long as ours.

5615. Major Tennant thinks you are mistaken about saying that they are not fed on the route, but the point that I wanted from you chiefly was the length of the time?—I have no experience of that.

5616. You are not sure from your own knowledge?—No, I cannot possibly say, as I have never travelled with a cattle train.

5617. I believe you carry your cattle entirely at shipper's risk?—We carry them entirely at the shipper's risk.

5618. Recently, you say that a floating policy was taken out at Lloyds for the insurance of cattle at a rate of 6s. 8d. per cent., or an average of 1s. 8d. per head on any risk from accident or mortality during the voyage; how have you found that to work?—That policy was taken out in the month of February last, and I should think we have carried since then 600 head of cattle, but that 1,000l. has not been used up yet, so that very few shippers take advantage of the insurance.

5619. The rate is 6s. 8d. per cent., I think?—Yes.

5620. Does that include risk and injury?—It includes the risk of the animals receiving such injury as necessitates their being lifted on shore in London. If they walk ashore in London no claim can be made against the underwriters.

5621. Could you give us any idea of the number of accidents you have had with cattle, say the number of injured and killed in last year's voyages?—I do not think we would kill one animal in a year.

5622. Have you any injuries, such as broken legs or anything of that sort?—Occasionally that has happened.

5623. Have you any claims against you for damage done?—Not under the conditions we receive them.

5624. You ship your cattle at shipper's risk, and if any injury occurs the shipper has to bear it, and he understands that he has to bear it?—Yes, that is so.

5625. We have been told that in many companies where they ship at shipper's risk, claims are made, and while they are not admitted as legally due, nevertheless they are compromised; but that is not your experience?—That is not our experience.

5626. I see from your proof that you attribute your freedom from accidents to the steamers being specially built for carrying cattle safely?—Yes.

5627. What do you refer to there?—Our steamers have all been built for the special trade. They are suitable for ourselves, but not so suitable for others.

5628. You give, I suppose, more room to the cattle than is done generally?—We give sufficient space for two out of every four to be lying down upon the deck resting at one time.

5629. You have never had any accident from trampling, have you?—Never.

5630. What is the average value per head of the cattle you ship?—I should think 25l. per head would be the average.

5631. When it comes to insuring them the value would be stated?—Yes, the value is stated.

5632. And it is put at an average of 25l. per head?—Yes.

5633. I believe you have carried cattle for a very long time?—Yes, I think we have carried cattle for 60 or 70 years.

5634. Are your vessels paddle or screw?—They are screw.

5635. Were they formerly paddle?—Our first steamer was built in 1828, and that was a paddle boat.

5636. But you have not had any paddles recently?—We have not had any paddles since 1870.

5637. You say that your rates are 16s., and that it is 25s. by the railway company?—Yes.

5638. Are the people who ship their cattle by you regular and constant customers who avoid the railway, or do you find that the people go one time to you and another to the railway company, according as the days of sailing suit?—That is just how they do it; they send to us on the days that our steamers suit, and on other days they will send by railway.

5639. Do they express any preference for either?—The only preference they express to us is that our freight is cheaper, and that the animals arrive in London in better condition than they do by the jolting in a railway journey.

5640. Has that been expressed to you often?—Yes, that has been expressed to me often.

5641. (*Major Tennant.*) The cattle you carry are for the most part polled cattle, are they not?—The large proportion is polled animals.

5642. Do you, from your experience, think that polled cattle travel better than horned cattle?—I do not think they do; I think myself that the black polled cattle are more delicate than the horned cattle; they have a more delicate constitution; that is my own opinion.

5643. You are raising a fresh point now, and I see that your answer is framed on a reason that I was not contemplating. No doubt they are more delicate to exposure; but my question was meant to be in this direction: Do you think that the horned cattle are more inclined to injure the other cattle that accompany them, or to injure themselves than polled cattle; are the polled cattle more docile and quieter, do you think?—The polled cattle are more docile than the horned ones until they get frightened and timid, then the polled cattle are worse to deal with than the horned ones.

5644. (*Mr. P. Smith.*) Do you tie all the beasts with their heads inwards?—Yes.

5645. What battens have you got on the deck?—We have got for footholds battens about 2 inches by 2½ inches, both for the fore feet and hind feet.

5646. Running fore and aft?—Yes.

5647. Also athwartships?—No, not athwartships.

5648. Do you think they are needed athwartships?—No, I do not think so.

5649. You do not find the beasts falling; you find the fore and aft battens sufficient?—We find the fore and aft battens sufficient.

5650. What distance apart are the battens, could you say?—About 3½ feet, I should think.

5651. Three and a half feet between each batten?—Yes, running fore and aft.

5652. You have just two battens?—Yes.

5653. And 3½ feet between them?—Just so.

5654. (*Mr. Cullen.*) You say these boats are specially built; what speciality is there about them that makes them carry the cattle so extremely well; have they a light draught of water?—No, they have not a light draught, they have rather a heavy draught.

5655. Have they bilge keels?—They have not bilge keels.

5656. But a heavy draught of water?—About 15 feet to 16 feet 6 inches, that is, for a 1,000 ton gross ship.

5657. They must be powerful steamers to run that distance in 36 hours?—Yes, they steam about 13 knots an hour.

5658. All the cattle are on deck, I gather; what height are the bulwarks?—All the cattle are on deck;

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- the bulwarks at the fore-hatch would be about 6 feet high, and at the after hatch they would be about 7½ feet high.
5659. And these are not covered?—They are not covered.
5660. The rate of insurance for injury of any kind is 6s. 8d. per cent. ?—Yes.
5661. And when there is a broken leg or anything of that sort, you pay the claim on the insurance?—The insurance people would pay for the loss arising from the sale of an animal with a broken leg.
5662. (Mr. Booth.) Would you kindly give us the names of your ships?—The "Hogarth," the "Ban-Righ," the "City of Aberdeen," and the "City of London."
5663. What is the name of the company?—The Aberdeen Steam Navigation Company.
5664. Do the whole of these four vessels carry cattle in the way you describe?—All the four carry cattle.
5665. You were saying you had one man whose duty it was solely to attend to the cattle?—That is so.
5666. Do you mean one man has to be at it the whole of the 36 hours?—No.
5667. You mean there are two men at it?—Another man has to take a turn when required.
5668. You mean there is always a man on hand?—Yes.
5669. Are these men special men for that purpose; have they no other duty?—The other man is the ship's carpenter. The ship's carpenter and the cattleman take charge of the cattle between them during the voyage.
5670. He is part of the crew?—Yes.
5671. But his first duty is to attend to the cattle?—Yes, that is his first duty; in fact his sole duty coming up this way is to attend to the cattle.
5672. When you say there is one man you mean the crew is so arranged that there is always one man whose duty it is to attend to the cattle?—Yes, always.
5673. In speaking just now of footholds, Mr. Parker Smith asked you whether you thought athwartship footholds were necessary. Supposing you did not tie your cattle, would you be of the same opinion; some of the Irish lines do not tie their cattle at all?—I should never like to see cattle brought to London not tied; we would not carry them.
5674. Probably not; but supposing they were not tied, would you think fore and aft footholds only would be necessary?—I do not know.
5675. At any rate you admit that it is a perfectly different question when beasts are not tied?—Yes.
5676. Then in speaking of polled cattle in answer to Major Tennant, as I understood, you were speaking of a particular breed—the polled Angus?—Yes.
5677. You were not speaking of polled cattle generally, that is, cattle without horns?—When I speak of polled cattle I mean the black Aberdeenshire cattle.
5678. (Mr. Watson.) In describing the way you ship cattle you said you put eight or ten on board at the time, will you explain a little more fully what you mean?—We drive them in lots of eight to ten animals on board the steamer at one time; there is a gangway specially for the cattle, with small footholds, footholds probably about 10 or 12 inches apart and perhaps an inch square, so that they cannot possibly slip should the gangway be a little off the level—it is never very much, but it might be sometimes a little off the level; it might be a foot or two from one end to the other. These footholds are quite sufficient to protect the cattle from slipping.
5679. It is as regards shipping them in lots that I am questioning you; what is the object of shipping them in lots of eight or ten at the time instead of shipping them continuously?—That we may be able when they are on board the steamer to separate them into their respective pens and fix them up in the pens.
5680. How long does it take to ship 90 or 100 head of cattle?—Three quarters of an hour.
5681. As regards loss, you say you took out a policy of 1,000l. in the spring?—Yes, in the month of February.
5682. And it is not used up yet?—It is not used up yet.
5683. Does that mean that any part of it is used up or not?—Yes, there is a part of it used up, but to what extent I am not personally conversant at this moment.
5684. But your claims are not very numerous?—We have not had a claim for cattle for years.
5685. Then the insurance must have been taken up for claims; I do not quite understand you; if there are no claims why was the insurance taken up?—There is one pretty large shipper in the north who was in the habit of sending all his cattle at one time by steamer. That was about 20 years ago. After that he sent them by rail for the reason that through some disputes, which will arise sometimes, our directors resolved that they would not take the risk of cattle, but would allow a reduced rate of freight for them; they reduced the rate by 5s., which was a very much greater reduction than was necessary when we can insure the cattle for, say, 1s. 8d. a head.
5686. When an injury arises to cattle carried at the owner's risk, there is no claim made?—That is so; neither has there been any claim against that insurance policy at Lloyd's since we took it out. As I stated, our accidents with cattle are very rare. I do not suppose that one animal in the course of the year would suffer damage; at any rate one animal would not be killed in the year, during the voyage.
5687. That is not one out of 3,000?—Yes.
5688. (Sir W. Kaye.) Have you any experience with respect to the carriage of cattle by shorter sea routes—I mean by the sea routes that take only from 10 to 12 hours?—No, I have no experience of that.
- The witness withdrew.
- Mr. GEORGE TURNBULL called and examined.
5689. (Chairman.) You, as well as Mr. Burns and Mr. Cuthbert, give evidence on behalf of the Clyde Steamship Owners' Association, I believe?—Yes.
5690. I think you represent the firm of Messrs. A. A. Laird and Company, managers for the Glasgow, Dublin, and Londonderry Steam Packet Company, Limited?—Yes.
5691. Your company has steamers carrying live stock between various ports in Ireland, and Glasgow, Morecambe, Fleetwood, and Liverpool, on this side of the Channel, has it not?—Between Dublin and Glasgow, and Dublin and Morecambe, Londonderry and Glasgow, and Londonderry and Morecambe, Sligo and Glasgow, and Westport and Liverpool.
5692. Have you any remarks to make about the arrangements in Dublin? I think you have heard what has been said by the other witnesses from the Clyde?—I think the arrangements in Dublin are exceptionally good. We have, like our neighbours, cattle yards, indeed we have two large cattle yards, for inspecting purposes, and where water is provided, and where the dealers may feed the cattle if they choose.
5693. Have you any remarks to make, or improvements to suggest in regard to the system in Dublin?—No.
5694. Now, take your Dublin to Glasgow line, how many sailings have you?—Three times a week.
5695. Do you carry cattle by all steamers?—Yes.
5696. Are the steamers paddle or screw?—They are all screw steamers.
5697. Where do you carry cattle in them; on what parts of the vessel?—On the main deck, and on the fore and aft 'tween decks.
5698. Not in the lower hold?—Not in the lower hold; we reserve the hold for cargo.
5699. Could you state how many cattle you have carried, say, during the past year, or for any given time?—We have carried nearly 90,000 cattle over all; 88,300 is the number.

5700. Between Dublin and Glasgow?—No, over all our trades. Between Dublin and Glasgow we carried 17,000 odd, that is, in the year 1893, from January to December.

5701. How many fatal accidents have you had?—11 fatal accidents.

5702. How many injuries?—Three. I am speaking from the number of claims.

5703. That is, you have had 11 claims for fatal accidents and three for injuries out of the 17,000 cattle?—Yes.

5704. What is the average length of your voyage from Dublin to Glasgow?—From Dublin to Greenock it is 12 to 13 hours, and to Glasgow 14 to 16.

5705. Does that include the stoppage at Greenock?—Yes; but the stoppage at Greenock is very short as a rule.

5706. So that the cattle would be on board your ships how long?—16 to 18 hours at the outside.

5707. That is allowing for an hour before starting in Dublin, I suppose?—I speak of the voyage alone, and I am allowing 18 hours as an ample time for it. I would allow another hour for the time of commencing to ship on board at Dublin.

5708. Do you carry at shipper's risk, or company's risk, or how?—We offer either. We also offer insurance against death and injury to the extent that the animals are unable to walk ashore.

5709. Do you undertake that yourself, or do you effect it through the agency of an insurance company?—We effect it at Lloyd's, in London.

5710. In the same way as we were told was done in the case of the Aberdeen Company?—Quite the same.

5711. I suppose that these claims which you have mentioned were claims that arose under that system of insurance?—Yes.

5712. Then those claims would not include the accidents which occurred in the case of cattle that were carried at shipper's risk?—I know of three other accidents resulting in death, but those are all that are present to my mind.

5713. What is the experience of your company as to the preference of shippers for the lower rates of carriage over the rates which include insurance?—They prefer the lower rates. I would give you some comparisons with regard to that. On the Londonderry trade we carried 35,000, of which less than 1,000 were insured; from Dublin we carried 17,000, of which one-third, 5,500, were insured. In the Sligo trade we had 4,500, and 2,100, about half, were insured.

5714. How is it there is such a large per-centage of insurance in the Sligo trade as compared with the other trades?—I suppose it is because of the longer voyage. I may mention that as a rule the insurances are almost confined to the four worst months of the year, although the insurance is offered on the understanding that the parties insure all the year through, somehow or other they manage to avoid that understanding, and escape insuring during the summer months, to a large extent.

5715. With respect to this system of insurance, is it material to you whether you get the higher or the lower rate?—Not at all, because we pay the premiums to the insurance company.

5716. You levy the premium on the cattle that are insured, and you pay it over?—Yes, we pay the premium to the underwriters.

5717. Therefore it does not make any material difference to you, you simply get the premium, and pass it on?—Quite so.

5718. Your experience in this matter would seem to show that the fact of insurance or non-insurance would make no difference in the care bestowed upon the cattle?—None whatever.

5719. There is no greater object on your part to bestow extra care on the cattle that are insured than on those that are not insured?—We could not draw any distinction if we wished to, and we should not be disposed to.

5720. I am not speaking about that, but you have no motive to do so?—None whatever.

5721. Have you anything to say about the landing in Glasgow?—I consider the gradients in Glasgow are quite easy, the worst I make out to be 25 degrees,

which is a very easy gradient, and that is only at low water.

5722. Low water spring tide?—Yes. At high water we are up sometimes perhaps a foot above the level.

5723. I forgot to ask you about the gradient in Dublin. What is it there?—I am informed that it is less than in Glasgow, that it is fully easier than in Glasgow.

5724. What length gangways do you use?—They differ. Some are long gangways, nearly 50 feet in length. We discharge in the same way as Mr. Burns described in his evidence.

5725. Can you give us the angle of the incline of the cattle gangways on your ships?—33 degrees, 41 minutes.

5726. And the height between decks?—From 7 to 8 feet, it is 8 feet in our largest vessel.

5727. And between the combing of the hatchway and the gangway?—We have a clearance of 6 feet in one of the 'tween decks, and 6 ft. 8 in. in the other.

5728. What do you do about ventilation?—We have a system of forced ventilation, called induced ventilation. It draws upon the external air: it acts in conjunction with the natural ventilation and assists it.

5729. What is the principle of it; have you got any drawings there?—Yes (*handing in prospectus*).

5730. Then you have got no mechanical ventilation?—Yes, that is mechanical ventilation; it is a forced draught.

5731. Do you find this system work satisfactorily?—Yes, very satisfactorily, and better than the first method we adopted. Some of our older vessels had Roots' blowers, but we have applied this new principle to some half-dozen of our latest and largest vessels, and we have found it work satisfactorily in them all.

5732. More satisfactorily than the blowers?—Yes, more satisfactorily than the Roots' blower.

5733. Have you any idea how much air you can clear out, or cause to pass between the decks per minute?—We calculate that we can renew the cubic quantity in from 5 to 7 minutes.

5734. You mean that you can clear out the whole air in the 'tween decks in from 5 to 7 minutes?—Yes.

5735. This works alongside of cowl and windsail ventilation, does it not?—Quite so. You have got the system of ventilation on the plan there.

5736. I see this is Anderson and M'Kinnell's system?—Yes.

5737. I think you have said that you do not carry animals in the lower hold?—Yes.

5738. Therefore you only want to ventilate the 'tween decks?—This is all.

5739. Has this calculation of yours, as to the time it takes you to renew the air, been verified; have you ever had any measurements taken of the amount of cubic feet of air per minute?—The only measurement we have is the size of the cylinder, and the number of strokes per minute. A calculation can be made exactly as to the quantity of air that is driven in, when you have those measurements.

5740. How many of your ships are fitted with this ventilator?—Four or five.

5741. How many with the Roots' blower?—About an equal number, to the best of my knowledge.

5742. What is the cost of this system as compared with the Roots' blower?—That I cannot tell. It is put in by the builders, and is in the contract for the ship, and I am not informed as to the exact cost of it.

5743. It is not costly to work, is it?—No. It is driven by steam from the main boiler, and it takes a certain expenditure of extra fuel to keep it going.

5744. But not more than the blower?—That is so. We consider that a vessel in ordinarily favourable circumstances with a wind has got sufficient natural ventilation without the system. This system is auxiliary to the natural ventilation, but it is intended to do the whole work if it were all thrown upon it.

5745. In case of detention by fogs or anything of that sort, or of a following wind, you mean?—Yes.

5746. Did you hear what Mr. Burns said about the accommodation provided in Londonderry?—Yes.

- Mr. G. Turnbull. 5747. Have you anything to add to that?—I have nothing to add to that.
5748. Then take Sligo to Glasgow; how long is your voyage there?—Our voyage from Sligo to Greenock is about 18 hours.
5749. Is that all?—Yes, and to Glasgow 20 or 21.
5750. What is the longest voyage altogether?—The longest voyage we have is from Westport to Liverpool.
5751. How long is that?—That is 30 to 36 hours.
5752. Have you anything to say about the arrangement for shipment at any of the ports from which you sail?—They are all pretty much the same; there is provision made for the inspection.
5753. I mean to say about the accommodation for cattle; are steep gradients or gangways necessary by the construction of the harbour or anything else?—I do not know any place where the gradient is greater than that in Glasgow. The other ports, I think, are more avourable.
5754. Where do your cattle land in Glasgow; do you go right alongside the quay, or do you keep out?—Our bows are outside the stern of the next vessel, and the gangway is extended across.
5755. And you say they are gangways of 50 feet in length?—Yes.
5756. Have you also got planks along the outside of the gangway to allow men to get at the cattle?—There is no provision for planks outside of the gangways that I know of.
5757. I thought I understood Mr. Burns to say he had some?—I have never been aware of any planks alongside and outside of the side of the gangways.
5758. You have not got them?—Not to my knowledge. I think you may take it from me that we have not.
5759. Do you arrange for feeding the cattle on any of your lines?—Except on the Westport and Liverpool voyage. I may say, however, that there is a smaller size of vessel that goes there, and we take very few cattle, and we take sheep occasionally. With that exception there is no provision for food. The dealers put hay on board for any cattle that may be taken on that voyage.
5760. How do you put up the cattle on this Westport and Liverpool line?—Just the same—in pens.
5761. How do you tie their heads, towards the sides or towards amidships?—They may be either way; the practice is, I think, mostly towards amidships.
5762. All I ask you for is, if you want to feed them, what arrangements have you to feed them?—I think hay would just be put in beside them.
5763. You do not know?—I do not know for certain as to that. We carry very few upon that trade. I could give you the numbers from Westport to Liverpool. We have just 61 cattle for the whole year; it is a small matter.
5764. Then it is hardly worth while asking you anything about that. Then your next longest trip is probably from Sligo?—Yes.
5765. Do you carry a great number of cattle there?—About 4,500 in the year.
5766. You have no special arrangement there for feeding or watering them?—No.
5767. On the cattle arriving in Sligo are they properly watered and fed before shipment?—They may be, but I cannot say that they are. It depends upon the dealers. Sometimes they come down too hurriedly for shipment, too near the advertised time of sailing to allow of it, but I think they are always watered.
5768. Do you carry cattlemen on board?—Yes.
5769. Your own servants?—Our own servants from the port of shipment and some that are regularly employed by us in that capacity—always employed.
5770. How many men would you consider sufficient for one of your boats; how do you regulate the number of men for the cattle?—We put one man to each 'tween decks, providing the vessel is well filled, and two to the deck, and more in bad weather. If bad weather is apprehended, then we have one or two extra men.
5771. These men are under the command of the captain?—Yes.
5772. And they are the servants of the company?—Yes.
5773. (Sir W. Kaye.) How has your trade been with Glasgow in 1893, as compared with previous years?—It is larger than in any previous year. I have not gone further back than 1892, however.
5774. But it compares favourably with previous years?—Yes.
5775. You heard the evidence given by Mr. Burns here?—Yes.
5776. You were in the room, I think?—I was in the room most of the time.
5777. Do you agree generally in the views that he put forward as to the carriage of cattle?—Quite.
5778. (Mr. Watson.) You say the number of losses with you have been very small?—Very small indeed.
5779. Have you had many complaints of injury discovered by butchers after the animals were slaughtered?—I have hardly heard until recently of any extensive complaints.
5780. What is your opinion of the statement that animals are injured from 10s. to 20s. a head as a rule?—I do not think that that can possibly be the case.
5781. You have not had such a case?—No.
5782. As regards cruelty, can cruelty go on on board ship without your knowledge?—It cannot; when the animals are once in the pens, there is no necessity for interfering with them, unless to assist them in bad weather, if they should fall.
5783. Have you had any difficulty in assisting them when it is necessary?—None whatever—that is, in getting at the cattle in order to assist them.
5784. (Mr. Booth.) In reference to that question which Mr. Watson has just put to you, have you been accustomed to cross in bad weather with the cattle, and to go down into the hold?—I have crossed in all weathers, but I have not been accustomed to go into the hold. I have seen the cattle loaded and discharged.
5785. You spoke as though of your own knowledge of what had to be done to the cattle when they go down and fall in the hold, but you have not had personal experience of that?—No.
5786. You say that on your boats you do not as a rule tie the cattle?—We tie bulls and springing cows and fat cattle as the dealers may wish. It is considered not beneficial to tie cattle that have been unaccustomed to tying.
5787. The general practice of your line is that the great proportion of cattle are not tied?—Yes, because the great proportion are cattle which we do not approve of tying.
5788. With regard to the proportion between stores and fat cattle to Glasgow, can you say that the trade to Glasgow in fat cattle has diminished, going back over a number of years?—It has not.
5789. I am speaking now of fat cattle, not of the whole. Have you any means of answering that question?—I have not any statistics as to that, but from my general knowledge of the trade I can say confidently that that is not the case.
5790. Then Mr. Burns mentioned in his case that their sheds are always empty at the time of the arrival of the ships, so there is no difficulty about the beasts getting crowded amongst other goods; how is it with your own shed?—That is very much the case with ours, and it is a part of the statement I wish to corroborate.
5791. You do not find a difficulty about the cattle being landed in a crowded berth amongst other goods?—No, our sheds are empty on the days the cattle arrive. Sunday is a large day for the arrival of cattle; the largest of all on that day. I have been on the shed recently some half-a-dozen times on the Sunday; I do not make it a practice, but I have to do it sometimes, and have observed the absence of any goods or other impediments.
5792. Then am I to understand that the statement about the gradient of the Dublin gangway from the quay is a statement from your own personal knowledge? The statement was that it was not as steep as Glasgow?—It was an authorised statement sent to me upon instructions.
5793. It is not your own personal observation?—No; I have had it contributed to me on inquiry.

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5794. In a general way, and you have not got angles?—Yes, I have got the angles and the height of low water and high water.

5795. And you made the statement upon that information?—Yes.

5796. Your line consists of how many ships?—Eleven.

5797. And they are all carrying cattle?—Yes, more or less.

5798. And certain of them are running to Liverpool?—One.

5799. One only from Westport?—From Westport to Liverpool.

5800. Have you any connexion with vessels which come from Coleraine and Portrush to Liverpool?—Yes, from Portrush, but not with vessels running from Coleraine to Liverpool.

5801. Where do they run?—From Coleraine to Glasgow.

5802. Not to Liverpool?—Not to Liverpool.

5803. Which is the vessel that runs from Westport to Liverpool?—The "Ivy" at present.

5804. There are two vessels, the "Fern" and the "Holly," which appear to be a good deal smaller than some of the others. Where do they run to?—The "Holly" runs between Dublin and Glasgow, and the "Fern" runs between Coleraine and Glasgow.

5805. Do they each carry cattle?—Yes, they each carry cattle.

5806. And you consider them large enough for the purpose?—Yes.

5807. You said that your height between decks, as I understood, was between 7 and 8 feet?—That is on the largest.

5808. On the large boats?—I do not think we have less than 7 feet in any boat where we carry cattle on the 'tween decks.

5809. That is important; 7 feet you consider is the height which you do not go below in the 'tween decks?—Yes.

5810. Then with regard to the ventilation, is that of the "Olive" different in any respect from the ventilation of the other boat?—No, with the exception that some of them have Roots' blowers, and the "Olive" is different from them; but from the others she does not differ.

5811. Then, has the "Olive" got only this other An terson and M'Kinnell apparatus?—We have several other boats that have the same,

5812. The same as the "Olive"?—Yes.

5813. Is it the practice of your ships to keep this mechanical ventilation always working during the voyage?—Yes.

5814. Not only at certain times?—No, always.

5815. Is your loading place at Dublin on the North Wall?—Yes.

5816. And you have your own cattle yards there?—Yes.

5817. Can you say anything for the Ayr Steamship Company?—No, I cannot.

5818. You have no knowledge of them?—No knowledge.

5819. Do they belong to the Clyde Association?—I cannot say, but I think not.

5820. You said that from Westport to Liverpool you chiefly carry sheep?—Yes.

5821. With regard to sheep generally, do you ship sheep on the weather deck?—No, not generally.

5822. Ever?—We do sometimes in summer.

5823. In very fine weather?—In fine weather.

5824. You do not approve of it in anything but fine weather?—That is so.

5825. Are you able to say that sheep from Westport to Liverpool are invariably fed on that voyage?—I cannot say as to the feeding of sheep on the voyage, I spoke rather of cattle.

5826. You cannot say whether sheep from Westport and Liverpool are ever fed?—I cannot say that.

5827. That Westport voyage is once a week, I suppose?—No once a fortnight.

5828. On the long voyage from Sligo to Glasgow, upon which you say you have no arrangements for feeding, suppose a ship is detained there from weather or fog, or accident to machinery, you have no provision for taking care of the animals in such an event?—We have not, but the dealers are recommended to take hay for use.

5829. But you make no point of it?—We do not do it.

5830. Practically, do the dealers do so?—I cannot say that they do, unless it is forced upon them, but that it is specially urged in bad weather.

5831. Can you give any example of a prolonged passage from Sligo to Glasgow recently?—No, I do not remember for many years any prolonged passage from Sligo which was above 18 to 24 hours.

5832. Do you remember any prolonged passage on any of your lines?—Very rarely.

5833. Can you remember any particular one?—I cannot.

5834. You could not say there has not been any voyage extending beyond 30 hours?—From Sligo?

5835. From any point to Glasgow?—There has not been with the exception of Sligo. I could not say for Sligo that there has not been that, but I do not remember one instance even with Sligo.

5836. But you admit, of course, that such detention might take place and prolong the voyage beyond 30 hours?—It might from various causes; more likely from fog than any other.

5837. (Mr. Cullen.) Do you generally agree with Mr. Cuthbert's and Mr. Burns' evidence?—Yes.

5838. There were two things on which they rather differed, that is as to the responsibility of the ship owners; Mr Cuthbert accepts the responsibility for the cattle, but you, with Mr. Burns, deny responsibility?—Quite so, and we differ from both in one respect.

5839. What is the rate of your insurance?—8s. 4d. per cent.

5840. Did you hear me ask the question with reference to the blindness?—I heard you ask those questions.

5841. Do you know anything about that blindness?—I never heard of it until two or three weeks ago.

5842. With regard to the steepness of the gangway at Glasgow and its being described as a ladder, you do not know of anything like that?—I know very well that that is not the case.

5843. We were told that the carriage of the cattle to Glasgow was the worst that Mr. Nelson had any experience of?—I cannot believe that; I consider it a misstatement that it is worse than to other ports.

5844. Have you had an opportunity of seeing this Report of 1889 (*handing Report to witness*)?—I believe I have seen it, but I could not speak to it.

5845. At all events, you could have seen it if you had chosen?—It may have been put before me, but I cannot say.

5846. You only charge the actual rate for insurance that you pay, I presume?—Quite so.

5847. Is that an insurance against total loss?—It is against total loss, or inability to walk ashore.

5848. Or inability to walk ashore even if they are not dead?—Yes.

5849. (Mr. P. Smith.) I understand that the arrangements of your boats are very much the same as those of Messrs. Burns, generally speaking?—I believe so.

5850. Except, as you can see from Mr. Burns' plan, that the ventilation is different?—Yes, but generally the arrangements are the same.

5851. Can you say what the lowest clearance of any of the gangways on any of the landings in your boats is?—In entering?

5852. In entering?—Six feet.

5853. We have had complaints from some of the witnesses about bullocks being injured over their sterns by the clearance being too low; could that happen on any of your boats, do you think?—I do not think it

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could. There are some few bullocks that they call elephants, but they are so large that they would scarcely be put into the 'tween decks at all, except in the "Olive's" after 'tween decks, where we would have sufficient clearance for the largest I have seen. The height of an animal, I think, is not more than five feet, except these very large ones.

5854. I do not know whether you have seen this photograph of a beast which has been injured (*handing photograph to witness*). I cannot say what boat it came over in?—No, I have not seen it before.

5855. You have not had injuries of that sort brought to your notice?—We have never been invited to see the condition of any animal after slaughter. If we had known of such cases we would have endeavoured to trace them out. On one occasion I found a beast lying down unable to walk, and apparently suffering. I sent for a veterinary surgeon to get a report upon it; that is the only time I ever did that. He gave a certificate of his examination, pronouncing that the animal was suffering from stomach staggers, a disease of the stomach. We had a claim for that as having died from abuse on board.

5856. (*Chairman.*) How did you settle that claim?—It is not settled. We repudiate liability for that. It was not insured, I may say, but even had it been we would have felt it our duty not to acknowledge liability.

5857. (*Mr. P. Smith.*) I understand you have been down very often lately watching the cargoes coming off?—Yes, and I have been down often for the last 20 or 30 years.

5858. Do you consider that they arrive in good or in bad condition?—It is very seldom that they arrive in bad condition. Once in a while after some extraordinary storms we find animals come in in distress, out that is a rare exception.

5859. Have you ever seen Canadian beasts coming ashore?—No, I have never seen them landed. I have seen them sometimes walking up.

5860. You cannot give an opinion whether the Irish beasts land in as good a condition as the Canadian?—Not from observation.

5861. You say that you very seldom see them arrive in bad condition in Glasgow?—Very seldom.

5862. Do you often see them in times of wet weather, when they have been put on board wet, arriving in bad condition, and when you can ascribe their bad condition to what has happened to them before they got into the boats?—Not from my own observation, but I am sensible that when they are shipped wet in wet weather they stand the voyage much worse than when they are shipped dry.

5863. Then you are inclined to say, except in the case of exceptional storms, when they do arrive in bad condition, it is owing to what has happened to them before they got into the boat?—Quite so.

5864. (*Chairman.*) You told us that the ventilation in your ship was sufficient to clear out the air between the decks in from five to seven minutes, but I see that it is stated in this prospectus which you have handed in, that "the size of pipe suitable for nozzle, as shown in "Figure 1, is 1½ inches, so that a 3 inch pipe is "sufficient to supply four 1½ inch nozzles, which are "together capable of inducing upwards of 6,400 cubic "feet of air per minute, or 384,000 cubic feet per hour." So that is the amount would be fixed in your four ventilators shown on this plan?—No, I did not take my data from that. I took it from the report of our superintendent engineer.

5865. Can you give us any idea of the number of cubic feet per minute?—Yes.

5866. If you have it with you let us have that, please?—The total cubic capacity of the induced ventilation of the fore 'tween decks of the "Olive," exclusive of hatches, is 9,622 cubic feet, and the fresh air passing in per minute is 1,400 cubic feet.

5867. Then could you tell us the number of cattle that you consider that compartment would hold?—About 115 medium-sized cattle.

5868. I suppose you allow 1,400 cubic feet per minute for the 115 medium-sized cattle?—Yes.

5869. That is the basis of your arrangement?—That is the basis.

5870. And you have found it sufficient?—Yes, we find it sufficient.

5871. (*Major Tennant.*) How did you arrive at that conclusion that you have got 1,400 feet; how did you measure it?—We measured it by the length of the cylinder and the number of motions per minute of the piston; just the same as you measure the steam that passes through a steam engine cylinder. Every movement of the piston sends the capacity of the cylinder into the pipes.

5872. (*Chairman.*) This measurement has been made by an engineer, I think you said?—Yes.

5873. (*Mr. Cullen.*) And it is air forced in, it is not exhaust air?—It is compressed air forced in, and carrying with it, inducing with it, the natural ventilation as well.

5874. (*Chairman.*) So that you have not given us the total; the 1,400 feet you mentioned was merely the air forced in?—Yes. We have both the income and the outlet. We force it in, and we force it out as well.

5875. (*Mr. Cullen.*) But it was the forcing of the air in that you spoke of, not the exhaust?—The exhaust is rather stronger than the air forced in, and that tends to increase the natural draught.

5876. I do not understand. Your engine forces the fresh air in?—Yes.

5877. And forces the foul air out?—Yes.

5878. That is a forced draught?—Yes.

5879. (*Chairman.*) A witness yesterday, Mr. Watson, I think, suggested that there should be some regulation to prevent cows in calf being sent on these sea voyages, because the consequence often was to induce premature labour, and give rise to a great amount of distress on board the ships. Have you come across many cases in which cows have slipped their calves in transit?—We have.

5880. Do you think such a rule as that is desirable?—I think it is most desirable that calving cows should be excluded. It is a risk that we do not undertake in insurance.

5881. Have you had many cases in which that accident has occurred?—Not many.

5882. (*Mr. Booth.*) I want to know whether there are any other boats bringing Irish cattle to Glasgow, or if there are what they are besides those that are owned by the three larger companies here present?—I do not know of any others than those which have been mentioned—namely, Burns, the Clyde Shipping Company, ourselves, and Mr. Lamont—the Dublin and Glasgow Steamship Company.

5883. In the crowded season, do you ever employ other boats than your own to carry cattle?—Never.

5884. With regard to your own boats, do you use water ballast?—No.

5885. When you send the boat in the crowded time back quickly for cattle, what arrangements do you make to get a sufficient amount of weight?—We always carry a sufficient quantity of ballast on board—permanent ballast.

5886. Even when there is no other cargo?—Even when there is no other cargo.

5887. In order to keep the boat steady?—Yes. We carry over 80 to 120 tons of ballast always.

5888. (*Chairman.*) Your recollection is that there was some statement made regarding the "Olive" by some witness. I have consulted some of my colleagues but we cannot remember exactly what it is?—I have read that evidence. There is a statement to the effect that some 28 or 30 cattle were smothered on board the "Olive." That is exaggerated. There were 14 landed dead.

5889. Was that before she was fitted up with this new means of ventilation?—No, it is since.

5890. How did that occur?—These cattle, I am informed, were carried a long distance by rail before being shipped; they were shipped wet, and the night was sultry and humid, the atmosphere being damp and hot. I think the animals were not in a condition to stand the voyage under those circumstances.

5891. Were these cattle stowed between decks?—They were between decks, but they were next the hatch, in the most favourable position.

5892. This was after you had Anderson and M'Kinell's ventilator?—Yes; but the circumstances were exceptional. Any wind that there was was following the vessel, and she was in a dead calm all the time, in a hot humid atmosphere, and the cattle had all been wet and gave off perspiration to an unwonted extent.

5893. You had, of course, these ventilators working?—Yes; a dozen of these animals out of the 14 were insured, and the owner was paid the full declared value of them.

5894. (*Mr. Booth.*) You know as a fact, do you, that the ventilation was working during that voyage?—Yes, I made particular inquiries at the moment, not of one person alone, but all round, and I can speak of it as positively as I can speak of anything.

5895. As I understand, you think the loss was largely due to the exhausted condition of the cattle when they came on board?—Quite so.

The witness withdrew.

Adjourned to Tuesday next, at 11 o'clock.

NINTH DAY.

At No. 7, Whitehall Place, S.W.

Tuesday, 1st May 1894.

PRESENT

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B., C.

Mr. ALFRED BOOTH.

Mr. HUGH CULLEN.

Mr. WILLIAM FIELD, M.P.

Mr. J. PARKER SMITH, M.P.

Major JOHN TRENCHARD TENNANT.

Mr. INGRAM B. WALKER.

Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary.*

Mr. FREDERICK HARRISON called and examined.

5896. (*Chairman.*) You are, I believe, the General Manager of the London and North-Western Railway Company?—Yes, I am.

5897. For many years you have been Chief Goods Manager of that Company, and are fully conversant with the conditions under which live stock is called from Ireland to England via Holyhead by the boats of your company, sailing from North Wall, Dublin, and from Greenore?—Yes, I have been connected with it for the last 25 years.

5898. Would you, please, describe to the Committee how live stock is carried on your boats?—It is carried fore and aft on the main deck, and in the fore part of the 'tween decks, but it is not, as a rule, carried in the after part of the 'tween decks, except under very great pressure.

5899. You have no lower holds?—We have no lower holds.

5900. And I believe no animals of any kind are carried on the hurricane deck?—That is so.

5901. What are your boats; paddle or screw?—Mostly screw now; but there are some paddle boats; the Greenore boats are paddle boats.

5902. What is their tonnage, roughly speaking?—I should think from 1,000 to 1,300 tons gross.

5903. The space allotted to animals in your vessels is divided according to the Privy Council Regulations, as to the size of the pens, is it not?—Yes.

5904. And the decks are fitted with bulkheads in accordance with the regulations of the Board of Trade?—Yes, with very strong partitions.

5905. Do you consider that the fittings are amply strong enough for every purpose?—Yes, I do not know that they have ever been known to be broken away.

5906. The floor, I see is laid with battens, 19 inches apart, running fore and aft?—Yes.

5907. That is according to regulations, is it not?—Yes.

5908. Your practice is invariably to tether horned cattle by ropes made fast to iron rings, with their heads to the side of the vessel, or to the middle partitions?—Yes. The horned cattle are always tethered.

5909. Have you many middle partitions; that is to say, do you turn many cattle with their heads facing amidships?—No; as a rule they are thwart the vessel.

5910. You have not any plans of your vessels with you, have you?—No, I have not got one here.

5911. In the case of animals facing amidships, have you any provisions for getting at their heads; have you any passage in front?—Yes, there is a passage down between the pens.

5912. Have you access to all the pens?—Not direct access, but the men can get at them pretty freely.

5913. Do you find any drawback from tying the cattle with their heads facing inwards?—No, we have not found any; in fact the amount of, I will not say inconvenience, but the amount of injury that the cattle sustain with us is so very small, that we have never recognised any difficulty at all, nor experienced any.

5914. I ask you this question from a practical point of view; it has been suggested to us that when they are tied with their faces towards the centre of the vessel, you would have to tie them against boards which they might be liable to carry away on a severe lurching—but you have not experienced anything of that?—No, we have not found that.

5915. As to battens, I take it that you do not approve of the suggestion which has been made to have cross battens?—No. If we had them crosswise, there would be a difficulty in cleaning the decks.

5916. And it would be an interference with the general cargo?—Yes.

5917. I understand that polled cattle, sheep and pigs, are carried loose in your boats?—They are bound to be carried loose.

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5918. Have you any statistics as to the number of cattle, sheep, and pigs that you carry?—Yes. During the six months ending the 31st March 1893, we landed at Holyhead 100,811 pigs, 73,642 sheep, 36,566 cattle, and 2,095 horses, making altogether 213,114 animals.

919. Have you any statistics as to the amount of injury?—Yes, during that period the number of killed and injured or lamed, or with horns broken were 149.

5920. Of all sorts?—Of all sorts.

5921. Have you the details?—Yes. There were no horses killed, but there were two injured or lamed; 9 cattle were killed, 22 injured or lamed, and 34 had their horns broken; 13 sheep were killed, and 16 injured or lamed; 49 pigs were killed, and four injured or lamed. As you will see, the proportion of that is one animal in every 1,430.

5922. What is the proportion of horses; it is a little larger, is it not?—The proportion of horses in 1 in a 1,000 lamed instead of the general average of one in 1,430.

5923. Does the 1 in 1,430 include killed and injured?—Yes, however trifling the injury may be.

5924. Your vessels are ventilated by windsails and snoots, are they not?—Yes, they have got ventilators, and there is a shaft running through the hold, which is in connexion with the funnel of the vessel, so as to create a draught.

5925. So that you have got artificial draught?—As well as the natural draught.

5926. Have you no other mechanical ventilation?—No.

5927. Would you please briefly describe the ventilation?—The vessels have eight ventilators, four in the fore-part of the vessel, and four in the after-part; they are 22 inches in diameter at the orifice within the hold; in addition, there is a ventilating shaft running the whole length of the hold, with perforated intakes at regular intervals communicating with the ship's funnels, so that the upward draught in the funnel may draw away the foul air through the perforated apertures.

5928. There is some slight difference in your Greenore vessels in that respect, is there not?—Yes. On the Greenore boats there is not so much cattle carried; probably 50 or 60 sometimes on a trip at the outside. There they have four ventilators, two fore and two aft; but they can get more current by a windsail.

5929. This is the first time, I think, on which we have had brought under our notice this system of ventilating into the funnel and getting your up-draught through the funnel; is that an exceptional form of ventilation; how do you find it work?—It works very well.

5930. Where did you get the idea from, the American trade?—No. Laird's have built most of our boats; Harland and Wolff built two; and there was one built on the east coast.

5931. When did you introduce this system?—It would be some few years ago; I do not know the exact date.

5932. You say, in your proof, that your sloping gangways for taking the cattle from the main deck to the hold, and *vice versa*, are well battened, and are always strewn with sawdust and shavings in addition, and that they are not more steep than they can be made with due regard to preserving a proper headway?—Quite so.

5933. Can you give us the angle?—No, I could not give that.

5934. Could you supplement that answer by giving it to us later on?—Yes, certainly.

5935. The holds of the vessels in which you carry cattle, you say, are adequately lit with oil lamps?—Yes.

5936. Then you have not introduced electricity into that portion of the vessel?—Not for the cattle part of the vessel, but we have it in the passenger part. We rather thought that the cattle were as well off with an oil lamp in the holds of the vessels, as they were without it in the cattle shed.

5937. I asked that question because electric lighting has been suggested to us, but you do not consider that it would be of any advantage?—I do not think it would help us at all, or be of any benefit to the cattle.

5938. Have you plenty of light to see when you want to do anything down amongst them?—Certainly.

5939. What are your arrangements for taking charge of the cattle?—We send bullockmen, and generally there is one in each part of the hold where there is cattle; at all events if it is at all likely to be bad weather.

5940. That is a recent arrangement, I understand?—Yes.

5941. You sent one bullockman at one time?—One, and sometimes two.

5942. Now you are sending one for each division of the ship?—Yes. In addition to that we give the drovers a free passage in order to look after their cattle on board. I am afraid they do not devote much time to it, they generally take care of themselves. For years it has been the custom in the cross-channel Irish trade to carry the drovers free, on condition that they do attend to the live stock whilst they are on board.

5943. Do you consider even when there is a drover that it is part of the duty of your men to look after the cattle, and of the crew to assist in case of emergency?—Yes, I think so. I think the crew ought to be held responsible for the general good conduct of everything on board the ship.

5944. Would you not consider yourself relieved of that responsibility in the case of a drover being on board?—No, I do not think so.

5945. Do you approve of the arrangements for transferring cattle from the railway to the boat at North Wall?—Yes, I do not think they could be improved upon; they are very good—very perfect.

5946. Would you explain, please, the mode of transferring the stock?—The cattle that come to Dublin from the interior by rail are taken in the trucks directly alongside the pens, and there they can rest until they get water or food, and until it is time for them to go on board; then they are driven across the roadway, through a sunken passage, straight on board. It is a very short distance; about a couple of hundred, or three hundred yards perhaps.

5947. As to the facilities for obtaining food and water; I suppose there is water in the pens, and that food is supplied at the request of the owner?—That is so. We do not supply the food, as a rule, unless the owners or the people in charge require it, but there is always water.

5948. As a rule now do you find that the owners in many cases do require it?—Not so much on the Irish side; on the Holyhead side they do use a good deal.

5949. Could you give us any idea of the proportion of owners who ask you to feed their cattle on the Irish side?—I do not think I have got any details of the number of cases in which it is supplied.

5950. But you would have some record, or some item in your accounts, would you not?—Yes, I think we could get that.

5951. Would you fill in that, giving the number of cases, and the amount which you charge for the food?—Yes, I will. I think you perhaps should understand that we do not make any charge ourselves. There are certain forage-dealers both at North Wall and at Holyhead, that is, at Dublin and Holyhead, who do this business, and at the request of the senders we communicate with them, and tell them what is wanted.

5952. Then you will not have any record of it?—I am afraid in those cases we should not have a record, but there are some cases in which we should. I will see what is the best information I can give you, at all events, if that is not complete, or would be misleading, I will let you know.

5953. Thank you. In your proof you refer to branding; all have heard it stated that there is one form of cruelty to which pigs are subjected, namely, being branded by cutting with a knife, do you know anything of that?—No, I have not heard of anything of that kind.

5954. I believe your attention has been called to a statement of Major Landon, of the Board of Agriculture, to the effect that the gradient of the gangway at North Wall is too steep; is that your opinion?—I do not think it is any steeper than is necessary to get into the vessels. Of course at low water it is steeper than at other times, but then we avoid, as far as we can, loading the live stock at low water and we use a longer gangway.

5955. I suppose you could give the Committee the angle of the gradient of the gangway at its steepest?—I could not now, but I could get it for you, and let you have it afterwards.

5956. Might I ask you whether any extreme steepness might not be obviated by the use of long gangways, and having the vessel which is being loaded, somewhat tilted out, as was explained to us, was the custom in Glasgow?—I should not like to do it myself; I should not like to put the boat out away from the quay into the stream, and load her with a longer gangway than we now use.

5957. Witnesses from Glasgow explained to us how, by an arrangement of placing the vessel at the quay, they use 40-feet gangways, and in that way, at low water, manage to get a very easy gradient?—My own view is that it is rather a sentimental objection to say that the steepness of the gradient is any difficulty with the cattle. We have never found it so. We do not find a difficulty in their getting on board with the gangway as it is now arranged. There is no severe driving or beating to cause them to go on board. I have watched it myself, many and many a time, both at Dublin, and at Holyhead.

5958. What are the men who load your cattle, are they your employées?—Yes.

5959. I suppose they are under the charge of your foreman?—Yes, they are very good men.

5960. I think you said that you give instructions that there shall be no unnecessary roughness in any direction?—We are very strict in observing that there should not be any ill-treatment of the beasts. Besides that the men know themselves that there is not only the officer of the Privy Council always there, but that there is an officer from the Society for the Prevention of Cruelty to Animals. Independently of that, if any of the men were seen to be using unnecessary violence in driving the animals they would get into trouble on our own account.

5961. Your men use goads and not sticks, I believe?—They use a goad with, if such a thing can be said, a blunt point.

5962. Is it long since you substituted the goad for the stick?—I am not aware that there has been any change of recent years.

5963. Have you ever had any difficulty with the Dublin authorities as to the use of this goad?—No.

5964. I believe you are perfectly satisfied with the arrangements at Greenore?—Yes; they are on very similar lines to the arrangements at North Wall.

5965. At Holyhead the arrangements for the debarkation of cattle, are, you think, as perfect as they can be?—Yes; they come off there either into the upper gangway or into the gallery that is underneath, and they have to walk through a drive made on purpose for them up to the cattle yard, which is perhaps half a mile or three quarters of a mile off; they do not walk along a public road at all.

5966. You say that matters are so arranged that the cattle are simply turned out of the ship and left to find their own way to the yard at their leisure?—Yes, there is a cattle roadway with walls on each side, and as they come out of the ship they find their way up that and loiter up as leisurely as they like.

5967. Now as to the water supply; at Greenore and North Wall there are plenty of water troughs in the pens, I understand?—Yes, at all three places—Greenore, North Wall, and Holyhead—there is a very abundant supply of water.

5968. If some of the animals fail to get water at Holyhead it is not through any fault in the company's arrangements, but, you say in your proof, it is because some of the dealers object to their stock being watered before being placed in the trucks, owing to the fact that they are more inclined to lie down and a less number of animals can be placed in one truck in consequence?—There is no doubt that after the animals have had a good drink of water, they want to rest, and the tendency is for them to lie down in the trucks and occupy the space.

5969. Is that the only objection to allowing the cattle to drink that you have heard?—That is the only one I have heard.

5970. We were told that it was apt to give them diarrhoea and to upset them generally; but you have

never heard that stated?—I have never heard that stated.

5971. Do a large proportion of the dealers object to watering the cattle, or only a small number?—I think they object pretty generally on the eve of departing by train.

5972. Then they send their men with the cattle and prevent them from getting water, do they?—No.

5973. Do they send instructions to you to prevent the cattle getting any water?—They leave it very much to us.

5974. Then what do you do; when you are not instructed what is your practice?—We let the animals take the water if they want it. The animals have really to pass the open water troughs, and we should not interfere with their taking water if they wanted to do so.

5975. When they are prevented from taking water, I presume it is by the servants of the owners?—It would be by the forage dealers or by the drovers who are engaged by the owners.

5976. You have told us about your foraging arrangements, and you say in your proof that the general rule is that the animals are not fed without the instructions of the senders or consignees, and that at Dublin and Greenore this rule is strictly observed, but that at Holyhead a certain discretion is exercised by the company's officials; would you please explain what that discretion is?—The foreman in charge of the cattle yard at Holyhead, if he found the beasts, for any reason, had been an undue length of time on the journey, or that they were not likely to go forward in the ordinary course and would be delayed at Holyhead, would arrange for them to be fed and would charge the cost to the people, although there might be nobody there to give him instructions to do it.

5977. What happens in Dublin when the cattle are not shipped on a Saturday night?—We always feed them, as we have no boat going on the Sunday.

5978. You say it is not the rule for fat cattle sold in the Dublin market and intended for the markets of Liverpool, Manchester, and Salford, to be fed either at Dublin or Holyhead?—That is for some reason the dealers have of their own. I suppose the journey is so short that they consider the animals do not want it.

5979. How long is the journey?—Without the particulars before me I should say from Dublin to Manchester it would be 12 hours or so, sometimes longer.

5980. Then an animal may be some time on the route before it reaches Dublin, I presume?—Yes; but it cannot be much of an advantage to the dealer, I should think, to land his animal short of food just when it is going into the market.

5981. You say the larger importers of store cattle invariably have them fed at Dublin, or at Greenore, or at Holyhead?—Yes; of course the store cattle are generally going much longer distances.

5982. The small dealers are not so particular; you say that they do not generally give any instructions?—No, they do not.

5983. What is the rule as regards sheep?—The sheep as a rule, are not fed at the port of departure, that is at Dublin or Greenore with us; but they are turned out when they get to Holyhead. We have grass land at Holyhead, and they are turned out there to graze and sent forward later on.

5984. Then what is the rule with regard to pigs?—Pigs are nearly always fed in Dublin and they are occasionally at Holyhead; they are generally loaded up at once on arrival at Holyhead and sent forward to their destination.

5985. What is done as to horses?—The horses are invariably fed and watered at Holyhead before being trucked.

5986. Are the horses fed or watered on board ship?—No, not on board ship.

5987. How long is your longest passage?—It would depend very much on the state of the weather—say from four to six hours; from Greenore it would be about six hours.

5988. You have given us details as to the number of horses, cattle, sheep, and pigs shipped and the number of deaths and injuries during the six months ending the 31st March 1893; I think you have got similar statistics for the six months ending the 31st March 1894?—Yes.

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As is well known, the weather during that period was about as bad as we have ever experienced. From October until after Christmas there was a continuous succession of gales, and we got very severe weather in the Channel.

5989. Would you give us the figures?—The number of animals landed at Holyhead during that period was 2,272 horses, 31,234 cattle, 54,947 sheep, and 112,893 pigs; or a total of 201,346.

5990. Then what was the number of casualties?—The casualties were—horses, killed 1, injured or lamed 7; cattle, killed 18, injured or lamed 20, with horns broken 12; sheep, killed 44, injured or lamed 24; pigs, killed 74, injured or lamed 31; total 231, or one casualty for every 870 animals carried.

5991. What is the proportion of killed and injured among the horses?—One for every 284 carried I make it.

5992. So that, again, you have in this six months a much larger proportion of horses killed and injured than among the other animals carried?—The number of horses killed or injured is greater than the general average.

5993. Before we pass from this point I should like to ask you something about the injuries to cattle; you have one item, "cattle with horns broken," how does that occur?—I suppose that is in knocking against the side of the vessel.

5994. Is there much injury inflicted upon the cattle by the horns of other cattle carried with them?—No, I have not heard that that is a cause of injury to any great extent.

5995. Then you do not think that much would be gained in the matter of sea transit, at all events, by the dishorning of cattle?—No, I should say not.

5996. Now among the sheep, how do the casualties among them chiefly occur, by their being trampled on or what?—Mostly by their getting down and getting crushed by the others and trampled on.

5997. And the same thing among pigs?—The same thing with pigs.

5998. Do pigs fight much?—Pretty well.

5999. Have you many cases of injury through their fighting?—Yes, there have been a good many cases where they have done damage to one another.

6000. Now, I think you have something to say about the question of making the captain responsible for the treatment of the animals on board?—Of course the captain is responsible for the ship and for everything on board; but we could not expect the captain to go down into the hold and be continually there watching the condition of the live stock. He has to keep general order and good conduct on board; and if he had the slightest suspicion that things were not going on right down below it would be his duty to take steps to correct it.

6001. And as a matter of fact the bullockmen are under his charge?—They are under his general supervision.

6002. They are under his orders?—Yes, everybody on board is under the captain's orders.

6003. You have never had any smothering on board, have you?—We have; when there has been very bad weather we have had some cases.

6004. Was that in consequence of your being obliged to batten down the hatches, or what?—No, I think it was more through the rough weather, and their getting knocked about.

6005. You do not attribute your losses to the inefficient ventilation?—No, I do not think so. I think the ventilation is as good as can be expected.

6006. What is your position about insuring the cattle?—We have two rates—one under which we take the ordinary carrier's risk on the sea passage, and the other a reduced rate under which the owners relieve us of that.

6007. What is the difference between the rates, say between Dublin and Holyhead for fat cattle?—In rough figures 9d. per head. As a rule the cattle are carried at the reduced rate, so that I think it may be put that the estimate of damage is certainly not more than the 9d. per head.

6008. Then do you find any difference in the resort to the higher rate in summer and winter; that is to

say, do more people insure in the winter in the stormy months than in the fine months?—No, I think as a rule they pay the less rate.

6009. Could you give the Committee any definite idea of the proportion of shippers who ship at the reduced rate, and the proportion who prefer to cover risks by the insurance rate?—It would take some time to get it out, but I think you may take it generally from me that it is the exception to have the company's risk. I have known cases when the weather has been exceptionally bad when some of the dealers have said "the Company shall take the risk to-night," but those are quite the exception.

6010. Do you do your own insurance?—Yes; we are our own insurers. With regard to the damages or casualties that I have mentioned here we take a very accurate record of the slightest damage, or what can be put forward as being a damage, because—I say it with great diffidence—the Irish cattle dealers are very prone to make claims, and if we did not take a very careful record of the slightest scratch or injury we should have nothing to rebut their claim when they make it. I think I am right when I say they hardly ever think of claiming less than 10 shillings to a pound a head. In their opinion cattle cannot be damaged to a less extent than that.

6011. Might I ask your experience on this point, that is, as to whether the shippers who have shipped cattle at the reduced rate on condition of taking their own risks ever make a claim upon you?—Unhesitatingly; the Irish cattle dealer will make a claim upon any pretence that can possibly be imagined.

6012. Then what is your practice in connexion with claims for damage done to cattle shipped at owner's risk?—As a rule, we do not entertain them, but there have been exceptional cases where we have even done that. The claims made on the Irish cattle traffic are on the plea of influencing the trade. Of course, we are all very anxious to carry as much of it as possible, and they will make claims against our competitors and the North-Western of a most exorbitant character; if the claims are not entertained they withdraw their traffic and give it to one of the other carriers until an opportunity arises for an exorbitant claim against them, and then, when that is not entertained, they go back. And so they go backwards and forwards, but, as I said just now, I do not think there is a single case, or very few cases—I will put it that way—where an Irish cattle dealer claims less than 1l. a head; it is generally 1l. and upwards, whatever the delay, or however slight the injury may be.

6013. (*Sir William Kaye.*) Your company is anxious to carry the cattle and anxious to avoid litigation, I take it?—Certainly.

6014. The object of your company is, I suppose, to carry the cattle as safely as possible?—Certainly.

6015. Having regard to the great experience you have had, are we to take it that you are satisfied with the present arrangements?—Perfectly satisfied.

6016. (*Mr. Watson.*) Do you think that the cases of injury which you named here fully represent all injuries to cattle?—Certainly.

6017. From the accurate account you keep they must?—Yes, they do. We have erred rather upon the side of recording what might be called an injury although it is not absolutely one.

6018. But your impression is that it includes all the injuries in that period?—Certainly.

6019. (*Mr. Booth.*) You said that your boats, as I understood, carry no cattle in the lower hold?—That is so.

6020. And generally not in the after 'tween decks?—We have no lower holds on the vessels.

6021. Not for cattle?—Quite so.

6022. Do you carry cargoes in the lower holds?—Generally.

6023. Then is that rule the same whether the boats are paddle-boats or screw-boats, I mean with regard to the aft 'tween decks?—There is no distinction.

6024. Then you say in your case the cattle are always tethered?—The horned cattle are.

6025. That includes both what are called store cattle and fat cattle?—Yes.

6026. Then with regard to the passage way between the pens which you said you provided, is that so on

both your decks, on the upper deck and on the 'tween deck?—That is my impression speaking from recollection. I have not the plans of the boat before me.

6027. The whole distance fore and aft?—Yes; there is a way that bullock men can get along.

6028. That is to say, on the deck without clambering over the boards?—Yes.

6029. Do you know about what width is allowed for that passage way?—No; from my own observation, I should say a couple of feet, perhaps.

6030. But it does go the whole length of the boat, does it?—Of course the pens do not go the whole length of the boat.

6031. Does it go so far that you can get to the farthest pen?—Yes; I should say so.

6032. Does that remark apply to all your boats?—Yes, practically; they are built on the same lines.

6033. You have not got a plan, as I understood you, of any of the boats?—No.

6034. Perhaps you can tell us how many tiers—I believe they are generally called tiers—how many pens there are in the width of the boat; are there three?—No; as far as I recollect there are four. I am under the impression that there is what you call a tier down each side of the vessel, and two in the centre with a passage way in between.

6035. It would have been very useful if we could have had an accurate plan of your general scheme of pens, especially as you allow the passage way?—I fancy most boats allow a passage way, do they not? This sketch which I have just made will give you a rough idea. That is my recollection of the arrangement. There are pens down each side, and pens down the centre divided in the middle with a passage way like that (*handing in sketch*).

6036. Can you give the width of those pens, is it 7 feet?—The pens on the main deck are 15 feet by 8 feet, and in the 'tween decks 15 feet by 7 feet.

6037. I see by the list we have got of your boats, that your paddle boats generally are from 29 to 30 feet beam, and your screw steamers about 33 feet beam?—Yes; I should think that would be about right.

6038. Would the arrangement of the pens be similar on both the paddle and the screw boats?—I should say so.

6039. (*Chairman.*) Could you send us a plan of your vessels, both paddle and screw, with the angles of your cattle gangways marked, that is to say, the degrees marked?—Yes.

6040. (*Mr. Booth.*) How do you provide against overcrowding; is there any rule, or is it left to your man to load the boats simply according to the number of cattle that can be got into the pens?—He knows what the capacity of the boat is, and he is responsible for avoiding overcrowding.

6041. When you talk of the capacity of the boat you do not mean that there is any fixed number that is not to be exceeded, do you?—No, there is no standard rule.

6042. Do you think, as a matter of fact, the number that is put into a pen is simply ruled by how many can be got into it, according to their size as they run in?—By how many can be got in properly, I should put it that way. The man is responsible for carrying on his work properly, and it is immaterial to him whether he gets rid of a hundred beasts more by one boat or a hundred less. What he has got to do is to load the live stock safely, and of course no limit could be given because beasts vary in size.

6043. Do you make an exception in the tying in regard to the beasts which the dealers may say are wild, or which, for some reason which may be given, they do not desire to be tied; do you yield to that request, or do you in every case tie them?—I believe we take the responsibility of tying them ourselves.

6044. In case of an animal falling do you know how they proceed to get it out from amongst the other animals in the pen?—No, I cannot say I do.

6045. Then you carry pigs very largely, do you not?—Yes, very largely.

6046. Probably more in proportion than any other line. Can you say how many pigs go into a pen; have you any rule about that?—No.

6047. Do you use the same fixed pens for pigs that you have for cattle?—Yes.

6048. Do you provide straw litter for the pigs?—I should say not.

6049. Then the pigs are simply lying down on the deck with the battens such as they exist for the cattle?—Sawdust, I think, is provided in some cases.

6050. But you cannot speak definitely of these cases?—No, I should not like to.

6051. It is rather important, I think, with regard to the pigs?—We do not find that pigs suffer very much in coming over with us.

6052. But pigs, as a rule, lie down, do they not, on the voyage?—Generally.

6053. They do not stand up?—No.

6054. Therefore, what they have to lie on is of some importance?—It is very comfortable wood inside our boats.

6055. Then, to go back to the pens for a moment, would your plan show us the description of stanchions and fastenings—perhaps it could be a little detailed?—We will try to make it as complete as possible.

6056. Showing the stanchions and the boards and the grooves and so on, also whether the boards are pinned through to prevent their lifting, and also the fastenings in the wings of the vessel?—They are not pinned, they are dropped into strong iron grooves.

6057. But they are often pinned to hold them, are they not?—There is not the slightest chance of the boards on our ships coming out; you might as well pin this house down to the ground for fear it should be blown away.

6058. Could those details be shown on the plan?—I am afraid if you ask me to go into too much detail the plan will be unreadable. I will give the Committee the most intelligible plan that I can get, but I cannot undertake to say that I will put all the bolts and nuts and screws and pins in.

6059. With regard to ventilation, is what you describe the general rule on board all your boats?—Yes.

6060. What you describe to us we may take then as a sample of the whole?—Yes.

6061. Your passages from Dublin and Greenore are really the shortest passages in the Irish cattle transit trade of any of the lines, I suppose?—No.

6062. With perhaps one or two exceptions such as the Larne and Stranraer?—The Larne and Stranraer route is the shortest.

6063. But otherwise you are the shortest?—You speak of the attendants being one in each part of the hold; how many divisions of the hold are there generally in the boat; would you count them as three?—I should call the main deck fore 1, aft 2; the 'tween decks fore would be another, and the 'tween decks aft another. There would be four.

6064. In cases where you carry cattle on the aft 'tween decks there are four separate divisions then?—Yes.

6065. In those cases there would be four attendants?—If the weather was at all likely to require it. I should not like to say that on every occasion, in summer, for instance, if it was a perfectly smooth calm day, we should put four bullockmen on a boat because they had got livestock in the four decks. The attendance of bullockmen is greatly regulated by the condition of the weather.

6066. With regard to what you said about the bullockmen being under the orders of the captain, and the captain not himself going down, the captain has full power to order the bullockmen to do anything he chooses and that he thinks for the safety of the cattle or of the ship?—Yes, but as a rule he does not interfere much. He has got to navigate his vessel and take care of the safety of that which is far more importance than a beast getting down.

6067. Supposing a bullockman or some of them wanted to untie some of the cattle would they do that without first asking the captain's leave?—Certainly.

6068. They would?—Certainly. What is the use of having a man responsible for a thing if he has to go and ask somebody else whether he can do it? The bullockman is responsible for seeing that the live stock are properly treated and well cared for; the captain's

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responsibility is for the good conduct of everything on board his ship, and the safety of it.

6069. You have said, I think, that you never carry sheep on the top or poop deck?—We do not carry live stock at all on the poop deck.

6070. Then with regard to Dublin, you spoke of there being a sunken passage to enable the cattle to get on board?—Yes.

6071. Does that lower the level?—Yes, it is through the quay wall really.

6072. So that your gangway starts from a lower level than the top of the quay?—Yes.

6073. Is that the general system of loading, or is that done simply when the tide is out?—That is the general system; it is part of the construction of the wharf.

6074. Then there is no difficulty in having a low level shipping place?—I should not like to say that unless I looked at the particular place where it is intended to have it.

6075. At any rate, you have this low level shipping place?—Yes, we find it most suitable to have that—more suitable, in fact, than having the cattle on the top of the quay. It keeps them confined in the passage-way.

6076. How many boats do you have sometimes loading at the North Wall at the same time with cattle?—Never more than two, generally only one.

6077. Can you load two boats at the lower level at one time?—No, only one.

6078. Do your cattle boats sail at any fixed times of the day?—Yes. It is the exception with us to have a special boat; we do, perhaps, in the busy season once or twice a week, but otherwise they sail at fixed times.

6079. Is it usually in the evening?—Usually, I should say the special boats sail about mid-day.

6080. So as to land at Holyhead the same evening?—Yes.

6081. Then with regard to sheep you state that at Holyhead you have certain fields into which the sheep are turned?—Yes.

6082. Is it the rule or is it the exception that sheep are turned into the fields?—It is the rule with sheep.

6083. (Mr. Cullen.) I understand you to say that you are pretty well bound up in what is for the general good of the whole public?—Yes.

6084. And that it is to your interest to do everything that is reasonably required for the benefit of the Irish cattle trade especially?—That is so.

6085. With reference to these cattle dealers I understand you to say that they have been generally making claims and complaining?—Yes; I do not wish you to tell them so; I hope they will never hear that I said so.

6086. Then I understand you to put it that you meet reasonable claims?—Certainly, I believe we do.

6087. But at all events they make the claims?—Yes.

6088. Who do you mean by these cattle dealers?—Those who are our very good customers, from whom we receive a large proportion of our income.

6089. I have it here, and we will assume it to be a fact, that there were 2,205,610 animals exported from Ireland last year—1893, the value of these was probably about 11,000,000*l.*, and the injuries upon that large amount, of course, would be a very serious item. In reference to these complaints which we have heard of for a number of years from the cattle dealers, I suppose you are familiar with this report showing that there were complaints about injuries (*handing report to witness*)?—I cannot say that I have ever seen this report.

6090. At all events you could have had it, or your department might have had it?—I do not think they have, but I should not like to say that they have or that they have not. I have never seen it.

6091. At all events there was a certain injury reported in that document, and it is not unreasonable now for the cattle dealers, at this moment to make complaints?—I think it unreasonable, decidedly. I think that the cattle, the live stock generally are properly carried, certainly by way of Holyhead. Although we do not carry by way of Liverpool on the water, that is across the Channel, we afterwards carry by rail a very large proportion

or what is imported into Liverpool by water, and our experience of the amount of injury that is sustained by the cattle, is that it is infinitesimal. I grant that the claims that are made for injuries and delays, and things of that kind are a totally different matter, but all these claims do not represent injuries, there is a certain amount, as I said before, of competitive claims.

6092. But there is a certain amount of conflict in that evidence. At all events, the freight upon these 2,200,000 animals, I suppose is a most important item; are you in a position to say that the freights charged on those are relatively more or less than those on the Atlantic trade, or are the rates unreasonable?—I think the rates for Irish live stock to England are very reasonable—they are low if anything.

6093. Low?—Yes, they are not up to the powers that we have had from Parliament.

6094. (Chairman.) When you speak of “we” whom do you mean?—The railway companies, who are also steamboat companies. Although those powers have recently been revised, as we know, by the Board of Trade and Committees, still the rates are below them.

6095. (Mr. Cullen.) Have you any schedule of rates for cattle?—I do not quite follow you.

6096. Have you any rates for the carriage of cattle from different places?—Yes; I was going to say millions, or very nearly—hundreds of thousands anyhow.

6097. What are the rates from Dublin to Holyhead for fat cattle we will say?—I do not know exactly off book. We have some hundreds of thousands of cattle rates, and they occupy some hundreds of books, and I cannot carry them all in my head as you will readily understand. The rate from Dublin to Holyhead is not very material, because there is practically no traffic going from Dublin to Holyhead itself; it goes from Dublin to Manchester, and Dublin to Liverpool, and Dublin to the different towns where there are markets, and to the store districts—the feeding districts.

6098. With regard to the men in charge, do you prefer to have these drovers that you give free passes to?—I should certainly prefer having the drovers if they could be induced to take care of their live stock, but it is the failure on their part that has really led to our having men.

6099. But the captain of the ship would have no control over those men?—He would; I think if they got obstreperous they might find themselves put in irons before they got across.

6100. But if they neglected their duty?—I suppose he would not attempt to put them in irons unless they were drunk or something?—I do not know; what I mean is that it is strongly my view that the facilities that are given to the dealers and their men for the journeys across the Channel are in consideration of their looking after live stock on board the vessels, and if they neglect it—and they do neglect it—there is no doubt about that—they are not behaving properly; they are taking a benefit and not giving the value for it for which it is given.

6101. On the whole do you recommend the men that are under the control of the captain in preference to those men, for the sake of the cattle?—Certainly not; I think it is very objectionable that the company's men should be called upon to undertake the work.

6102. We have had two witnesses who are totally opposed to each other on this point; one undertakes the responsibility for the care of the cattle on board the ship, and the other denies all responsibility; the one charges an extra rate for the responsibility and gives no option, and the other, as I say, takes no responsibility whatever—which would you prefer?—Independently of the question of rate (because, after all, that is only a commercial bargain) I should much prefer that the drovers, who have had charge from the time they came into the particular owner's possession, that is at the fair, or market, or wherever it is in Ireland, should continue in charge until the cattle are delivered at their destination. There would be no question then as to how the injury arose if he was responsible throughout for looking after them and taking care of them.

6103. And that would relieve you from all responsibility?—No, it would not relieve me from the carrier's responsibility.

6104. I understood that this document which has been handed in, which the owner or person in charge

is compelled to sign relieves you of all responsibility?—No.

6105. Is there any case which has ever been decided in favour of anybody who contracted out?—I think there are very few cases which have been decided in favour of the carrier when he has contested a claim. My experience is that if we went before an Irish jury we should always be thrown.

6106. Then you are in favour of that contracting-out clause at the present moment?—I think the contract we make is a reasonable one. The dealers and people interested in the live stock are well able to estimate whether it is worth their while availing themselves of that or keeping the carriers to their liability, and getting payment for any damage that may have been done; they clearly show by the preponderating way they avail themselves of the lower rate, that they think that is a better bargain for them than having damages paid for.

6107. Have you ever had any cases of blindness on board your ships caused by insufficient ventilation?—No, I have not heard of any.

6108. I suppose you have your pens white-washed with lime? Would you think that would cause blindness to the cattle, or would you be afraid to go into a place that was recently whitewashed?—I should not be afraid, I never heard that it caused any injury.

6109. I think a witness said it was the cause of the blindness. Then with reference to the freight question, a great numbers of the owners of land and producers of cattle think the rates are extremely high in Ireland, and ultimately operate as a tax upon the land and also that there is a system of allowing drawbacks which they do not get equal advantage of, and that the drawback is given irregularly?—I think the rates cannot be called unreasonable. They have recently been under review by the Board of Trade, and afterwards by a Joint Committee of the Houses of Lords and Commons, and, as I said before, the standard has been reduced somewhat to a figure which even now the companies do not charge; there is a margin allowed.

6110. Is it within your knowledge that at the Liverpool Cattle Market your rates were 14s. per waggon at one time to Manchester, that you subsequently raised them to 23s. per waggon, and that then the rates committee reduced them to 19s.?—It is not within my knowledge. I will tell you what is within my knowledge with regard to the Liverpool to Manchester rate, and that is that before the Committee come to a decision on the general question of the North-Western Company's cattle rates and goods and mineral rates, that, with some other rates was voluntarily reduced by the company. I do not know what the exact figure was, but I know that it was voluntarily reduced.

6111. It is 5s. per waggon more than it used to be long ago?—It depends what date you take as being long ago, I expect. I know you have got a better recollection and means of knowing than I have.

6112. Then you know nothing about the blindness?—No.

6113. And nothing about the drawbacks?—I do not know quite what drawbacks you mean.

6114. Rebates, moneys returned after the freight is paid, you do not know anything about those?—We have all sorts of statements about returns.

6115. That is the difficulty; the evidence is conflicting, you see?—We do not know anything about land-owners or butchers in the matter of conveying live-stock. What we do is to carry the live stock for certain people whom we deal with in that matter, and we make certain charges and receive certain moneys for it.

6116. You do not know, and you have made no improvement since 1889; things were perfect then, and they are perfect now, is that the net result of your evidence?—I should not like to say that. We have had new boats and new accommodation since 1889, and of course as boats are built there are always improvements made, but generally the cattle business is carried on by us on the same lines as it was before.

6117. I understand you do not carry any cattle in the lower hold?—No.

6118. And you do not know anything about the rates compared with the Americans, relatively?—No.

6119. Then with regard to the ventilation, your system of ventilation is a new thing so far as I have heard on this Committee, but on the whole you think it

from your own personal knowledge successful?—Yes, certainly.

6120. And there is no machinery to get out of order?—No, we have found no difficulty with it.

6121. What time did you specify as the average length of passage from Holyhead to Manchester by rail and boat?—I was only giving just a rough calculation which I made in my mind at the moment.

6122. Then you do not know?—I could not give you the average time occupied on that passage; to do that you must take out all the trains and boats that have been running and make an arithmetical calculation.

6123. Have you ever done it in 12 hours from Dublin to Manchester?—I should think so, but I do not know from memory.

6124. (*Mr. Field.*) I understand that you are the General Manager of the London and North-Western Railway Company?—Yes.

6125. You have very little to do with the Scotch traffic—nothing to do with the traffic to Glasgow, in fact?—Between Ireland and Glasgow?

6126. Yes?—Very little.

6127. There has been more complaint with regard to that traffic than any other. May I ask whether you have frequently travelled on board with these cattle?—I have, but that was more formerly when the cattle and the passengers were carried by the same boats; now it is rather the exception to carry the cattle in the passenger boats.

6128. I am aware that the cattle boats as a rule carry cattle, and that the passengers go on another boat; am I to take it, or to understand from your evidence that you are giving us your own personal experience with respect to the traffic that is carried on in cattle between Ireland and England; or is it the result of your own personal observation, or is it the result of what you were told by those whom you employ?—It is both.

6129. Which has the preponderating influence?—I should say that my personal experience and knowledge has been furnished up by recent inquiries and confirmation by those under me.

6130. I think you said in reply to Mr. Cullen that the report of the chief travelling inspector respecting the transit of cattle made in 1889 was not forwarded to you, although you are the manager of the great London and North-Western Railway Company, which carries more traffic as a carrying company than any other company in existence; am I correct in stating that?—No, not quite, in stating it in that way.

6131. Am I correct in taking it that you never saw that report before?—Yes.

6132. Of course, that is not your fault?—It is my misfortune.

6133. I think a mistake lies somewhere evidently if a Governmental report of that nature could not be forwarded to one of the greatest carrying companies in the kingdom, because if there was a necessity for it, obviously, those concerned in it ought to receive it?—It is no part of my duty to defend anybody except myself, but I take it that it is not part of the duty of the Government to circulate all the Blue Books and reports that are compiled to everybody interested in the reading of them; it would be a very arduous duty, I can readily understand that. I have understood the system of our Government is to enable them to be purchased.

6134. (*Chairman.*) You do not say that the Government did not forward it to the London and North-Western Company?—No, I did not say that.

6135. (*Mr. Field.*) I think you stated that in your opinion the majority of the claims made by those whom you termed dealers, were rather made in a competitive way in order to enable them to go and deal somewhere else, than founded on a basis of righteousness or something of that kind?—No, I put it that the traffic which these gentlemen can control, and which is very valuable to all the carriers is a lever used to get the claims paid.

6136. You have not changed your opinion in consequence of my question any way: you say that you generally accept the carriers' responsibility, or rather your company does?—If we are paid the rate to do so.

6137. You are entirely in favour of this contracting-out note, you say it is a fair contract?—It is a fair contract.

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6138. If you were a dealer, and went to a certain fair, and came to a station, and you wanted your cattle carried, and unless you signed this contract note you were told they would not be taken except under high conditions, which probably would not pay, do you think that would be a fair contract?—I do not think such a condition would be offered; it certainly would not by the North-Western Company.

6139. As a matter of fact, it is offered at the present time all over Ireland?—Because such an offer would invalidate the contract. A contract, to be a binding one, must give the option to the party to choose which he will take, either at the company's risk or at the owner's risk, and it must give a benefit to him if he takes the owner's risk.

6140. But some of these railway companies have not two risks, they have only one risk?—I only know the North-Western.

6141. Now with regard to the vessels, do the Board of Trade give you a certificate?—Yes.

6142. Every time before a vessel carries any cattle?—No, I think not. My impression is that the certificate is given once a year, or for a period.

6143. That is what I said, before a vessel carries cattle?—Not on each occasion.

6144. Does anyone from the Board of Trade go and examine the fittings of the vessel?—They have to be examined before they can get a certificate.

6145. Do you know whether there is anything like the same rule applying to the management of our cattle transit in this country as that which applies in America, where the owner, or agent, or master of any vessel designed to transport cattle from any port must make application to the Secretary of the Department, which corresponds to our Board of Trade, for a certificate of register, have you to do that?—We have to get a certificate from the Board of Trade before we can run our boats.

6146. I think I understood from your evidence, that no regular space was allotted to the cattle; that there is no rule as to the number of cattle that go in the pen?—That is so.

6147. I think you stated that the man who was in charge is responsible?—Yes.

6148. Might I ask to whom he is responsible?—To the directors of the company.

6149. Have the directors of the company ever brought this man who is responsible to them, up at any time during your experience, for a violation of this rule, in respect to overcrowding; is it within your memory that the directors at any time have charged any of these men, engaged under them, with a want of care in the management of these cattle?—Yes, I should say so.

6150. Would you be able, if you cannot charge your memory with it at the present time, to furnish this Committee with the number of cases in which the directors have exercised that supervision?—No, I do not think I could; I do not think it is material to the point myself.

6151. Of course we are entitled to have the benefit of your opinion, but I venture to differ from you entirely, as President of the Irish Cattle Traders' Association, and as president of the National Federation of Meat Dealers in Great Britain and Ireland. Somebody must be charged with the responsibility, and unless the whole business is a myth or a fable, this cattle transit is very badly managed?—I think the figures that I have given to the Committee show, so far as the North-Western transit is concerned it is not.

6152. I will come to that by and bye; you know you can prove anything by statistics, particularly when they are furnished by interested parties. Now with regard to the ventilation, you told us, I think, that you had had no complaints whatever about ventilation, and that your ventilation is, in your opinion, exceedingly satisfactory, was that not so?—Yes. I believe the whole conditions of transit by the North-Western boats across the Channel are as satisfactory as they can be expected to be. Whether it is in the matter of ventilation, or overcrowding, or accommodation in any way, or treatment, we try to treat the live stock as humanely as possible, and with as great care as we do the human beings if it comes to that.

6153. I am to understand then that your remarks apply only to your company?—Yes.

6154. That you claim for your company under those conditions that you carry live stock better than the rest of the companies, is that so?—No, I do not claim that I carry them better than the other companies. My knowledge is first of the North-Western, and then, as I said just now, as to the condition of the beasts coming to our railway at Liverpool off other Irish Channel services, and I say, as a rule, their condition is very favourable.

6155. You have no mechanical system of ventilation, and you have had no complaints about the system you have adopted?—No.

6156. Have you any foot-locks in your vessels, head-boards, or foot-boards. You know what foot-locks are, they are to catch the foot and prevent the animals from slipping?—No, but we have got the decks battened.

6157. And that is all?—Yes.

6158. Those battens are tantamount to the same thing. I think I understood you to say that you have alley-ways provided in all your vessels?—Yes.

6159. Will those alley-ways provide a passage for a beast, or a sheep, or a pig that gets down, so that you can bring him out, and he can be put into a hospital pen? Did you ever see a beast or a sheep down in any of your journeys over?—Yes.

6160. What was done with him?—They tried to get him up.

6161. And supposing they could not get him up, what was done with him?—He stayed down.

6162. He was left there, and what became of him then?—As long as he stayed there he stayed there.

6163. But he was landed in an improved condition according to your view?—An improved condition?

6164. Yes?—No; I should not say that. When he is landed at Holyhead we have a pen closely adjacent to the steamers for lame pigs, separated altogether from the ordinary station, so that they can be put in there at once.

6165. That is right enough when he gets to Holyhead, but it is while he is going to Holyhead that the mischief is being done. I think I understand you to say that in your opinion no light except by oil lamps is necessary; you thought that beasts travelling in a ship were just the same as they were in their stalls?—What I say is this, that I think the question of electric lighting is one of economy and advantage to the steamship owner more than of comfort to the cattle.

6166. Did you take into consideration this fact, that in the stalls the beast is by itself, and it is tied up the same as a man would be in bed or at home in an arm-chair, but that in a vessel it would be crammed into one pen and under entirely different conditions. I suppose you did not think of that at the time you gave that reply?—Yes; I did.

6167. Are you still of the same opinion that a beast that is liable to get down and for which there is no place of refuge, and which must be trampled on because there is no room in the alley ways, is just as well off in the darkness as it would be in the light?—I do not think he would feel more comfortable with the electric light than he would with an oil lamp.

6168. That is your opinion, but it is not unfortunately the opinion of the men who have lost by it. How many men do you generally have in a boat?—We have one or two.

6169. How many generally speaking. I want to take the matter in its average; I do not want to take a very bad night or a very good night, but as a rule how many bullock men do you send with your boats?—As a rule?

6170. As a rule, under the ordinary conditions of traffic?—Under the ordinary conditions of traffic, I suppose, fine weather predominates, and probably there would not be more than one bullock man sent, but there might be one, there might be two, there might be three.

6171. (Chairman.) That does not exactly accord with the answers you gave in your examination-in-chief?—There is generally a bullock man on board.

6172. (Mr. Field.) One or two, I think you said?—The number depends more upon the state of the weather than the quantity of stock on board.

6173. I said under ordinary circumstances, because, as a rule, you know we have not this very bad weather;

there is generally a bullock man or two, I suppose?—Yes.

6174. How many beasts might be on board, as a rule?—You cannot take it as a rule.

6175. Say, within a hundred or two—surely you can do that?—300 or 400.

6176. Then I am to take it that you have one or two bullock men for 300 or 400 beasts?—Yes.

6177. I find that in the American trade there is one bullock man to every 25 beasts; do you think that your proportion is quite enough?—Yes.

6178. Although those cattle on board the American steamers are all in pens with only four in each of them, and with a certain space allotted to them?—Yes; but the American steamship people, I apprehend, do not give a free passage across the Atlantic for the drover in charge of every eight or 10 beasts.

6179. I will come to that presently. The drovers, I believe, on the American steamers are allowed to go at a very small rate, and, in some instances, I think, without any payment. Now, with regard to the number of drovers that generally come over, have you any knowledge how many drovers generally come over?—With the beasts?

6180. Yes?—No, I do not know; I could not put an average.

6181. You put in a kind of reply there to an inquiry of mine, and then you are not able to follow it up. Permit me to say that I have travelled very frequently across with cattle, and I find that very few drovers come. I will tell you why they do not come—because the railway companies have stopped the passes; the railway companies have stopped them. It may not be the case with your company, but all the other railway companies in England and Ireland have stopped the free passes to drovers now. If the drovers get across they must stay there, and that is the reason they do not come?—Perhaps the Committee will not be interested in the question, but I state as a fact, whatever your knowledge may be, that the drovers are carried free now between Dublin and Holyhead.

6182. That is so between Dublin and Holyhead, on board the vessel, but I am speaking of the railway companies?—I did not know that anything that has taken place with regard to the railway transit was the subject of this inquiry.

6183. It is no use their going halfway if they cannot get on to the end of the journey?—They are no worse off afterwards; they have got to get to the end of the journey.

6184. They do not go?—Yes, they do.

6185. Very seldom?—Yes, they do.

6186. Allow me to say that very few drovers come across now—nothing like the same number that used to come. Did you ever know of instances in your experience of a captain reporting to the veterinary surgeon any of the bullock men, or anyone under his charge, for a neglect of duty?—I should think the captain would deal with them, but I cannot say that he has made a formal report of it.

6187. You do not know of any such cases having occurred?—No.

6188. Now, we have heard a good deal about the number of complaints that are made and the demands that are made on your company; may I ask if it is within your knowledge how many of these complaints and demands have been complied with by your company?—It is not on my company alone, because I have a knowledge of what claims are made on the other companies.

6189. I am speaking of your company?—I think all that should be met have been met fairly.

6190. Met fairly; that is your opinion?—Yes.

6191. You say an officer of the Society for the Prevention of Cruelty to Animals is always watching the loading and unloading of cattle, is that your experience?—It is with regard to the loading.

6192. Have you ever heard them making any complaints about your company or any other company not taking any of these steps?—They have complained to our local people on the spot.

6193. Have your company then complied with their complaints?—I should imagine that if they do not get

their remedy on the spot they would complain to headquarters with a view to having it put right.

6194. Do you know of your own personal knowledge whether any such complaint has been made by the Society for the Prevention of Cruelty to Animals in Ireland; I will not speak of the English side, I will only speak of what I know, and whether these complaints have been remedied?—I imagine there has not been any ground for complaints.

6195. You said there was some other officer, I think, in charge?—An officer of the Privy Council.

6196. Has the officer of the Privy Council made any such complaint?—I do not know.

6197. Did you ever know of an instance where a stevedore on board of any boat in Dublin ordered the policemen out and told them to go off, that he knew his own business, and that he was boss of the shanty and that he would do what he liked; did you ever know, of such a case occurring—frequently occurring—at Dublin?—Did I ever know of such a case?

6198. Did you ever hear of such a case?—No.

6199. Is it really your contention that the transit of Irish cattle is conducted as well as it could be or ought to be, is that really your contention?—Certainly, so far as that passing by way of Holyhead is concerned, and also that which I have a knowledge of passing by way of Liverpool.

6200. Then you are only speaking for yourself, your own company?—For my own company so far as the route via Holyhead is concerned and for the companies that carry in connection with the North-Western via Liverpool. Take the City of Dublin Company and the Drogheda Company, and the Belfast Steamship Company coming into Liverpool, certainly the accommodation for and the treatment of the live stock is proved by the way in which they are landed in Liverpool, as a rule, to be all that can be desired. There are exceptions, of course, I mean there are exceptional occasions. I do not mean exceptions in any other way.

6201. I am sorry to be so long, but really this is a very important matter, and I think we ought to have the facts. May I ask if you have had the opportunity of reading or of hearing the evidence given by gentlemen here from Liverpool with respect to the general condition of Irish cattle?—No, I have not.

6202. You have not?—No.

6203. Are you aware that these men are prepared to give sworn evidence that they buy Irish cattle at 10s. and 15s. a head less in consequence of the effects of the passage?—I prefer relying upon my own personal observation. I have seen the cattle many and many a time in Liverpool, both at the railway stations and in the market.

6204. You said something, I think, about risk rate, what does that risk rate cover?—The company's risk rate, do you mean?

6205. Yes, what does it cover?—It covers the liability of the company as a carrier.

6206. I want to know what the liability is; is it the "walk-ashore" clause?—I never until yesterday heard about "walk-ashore," and then a gentleman asked me if we had got a "walk-ashore" clause in our contract. Whether it meant walk on shore or walk ashore I could not make out.

6207. (Mr. Parker Smith.) You told us the number of cattle that rate covered; can you say how many are fat and how many are stores?—I am afraid not.

6208. You have not got them divided?—No.

6209. Where do they go to mainly?—To Manchester, Liverpool, and the Eastern Counties the greater proportion of them.

6210. Do they come tolerably uniformly throughout the year?—No, mostly in the fall of the year; the large traffic is in the fall of the year.

6211. Are your boats much used during the rest of the year for general merchandise?—Yes.

6212. They carry general merchandise?—Quite so, all the year round.

6213. As well as cattle, according to the season?—Yes.

6214. Have you had any complaints from dealers as to the accommodation that the cattle have in coming over?—No.

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6215. Not as to the quality of it?—No.

6216. I suppose you are subject to pretty strong competition with the Liverpool companies?—Very strong.

6217. Does that competition seem to you to take the form of a question of what treatment the beasts get, or of what rates have to be paid?—It is a question of rates really, and, as I said before, the question of claims does enter into the competition.

6218. These claims come up, and I suppose like other companies you pay from motives of policy pretty often?—Yes, that is so.

6219. If it is not too much?—Yes, if it is not too much.

6220. Then you say, speaking of the condition of the cattle arriving at Holyhead, that you have compared them with the condition of the cattle you receive in Liverpool?—Yes.

6221. Do you think the condition of those cattle as they come to you in Liverpool is satisfactory?—I think so, decidedly. Unless there has been a very severe storm or something unforeseen I should say there is nothing to complain of about the cattle.

6222. Would you say that you receive them in Liverpool in pretty much the same condition that you land them in at Holyhead?—Yes, very much so.

6223. Then with regard to ventilation, have you yourself been down any boats as they came in?—Yes.

6224. Did the ventilation seem tolerably satisfactory?—I think so.

6225. Nothing to complain of?—Nothing to complain of. You cannot, of course, expect to get a large number of beasts stowed in the 'tween decks without there being some warmth.

6226. Of course not; but it was nothing more than it would be in an ordinary crowded byre?—No.

6227. You gave us the number of cattle that were hurt; how were they hurt, mainly?—I have not got the particulars, but some were very slight injuries indeed. The record was made, so that in case any question was raised by the dealers as to injury having occurred we might have a positive answer.

6228. So that the record is your own record, and is not a record of the number of claims made?—No, it is our own record.

6229. As the Chairman has brought out, the percentage of casualties to horses is larger than the general per-centage?—It is.

6230. Does that mean that you attend more to a very slight lameness in a horse than you would to lameness in a beast?—No.

6231. It is just an accident?—Yes.

6232. The figures are so small that you cannot draw any inference from the per-centage as to the horses?—Yes.

6233. As to this question of owner's risk or company's risk, do you make any distinction in the way that the beasts are treated?—Not the slightest.

6234. For instance, would the cattlemen look equally after them all?—They would look equally after the owner's risk cattle as they would after the company's risk cattle.

6235. So that that 9d. is the difference of the weather risk almost entirely?—Yes.

6236. Your rates are pretty much all through rates, are they not?—Almost all.

6237. You are bound as a railway company to offer the alternative rate?—Yes.

6238. We have heard of cases of other lines of steamers, not railway companies, where a very large difference has been made between owner's risk and company's risk; do you know anything of that?—No, I do not, really. Of course, the steamboat companies are not under the same control as to the rates that the railway companies, who are also steamboat companies are—I wish they were.

6239. Would you think it policy to make a very large difference between owner's risk and company's risk, and in that way to press men to carry at owner's risk?—No, I should not like to do it myself, or feel bound to do it.

6240. You told us that the officers of the Society for Prevention of Cruelty to Animals watch the animals,

is that at Dublin or Holyhead, or both?—At Dublin; I do not think there are any at Holyhead.

6241. Do you allow them to come on board?—Yes.

6242. Would you allow them to come on board at Holyhead when the animals arrive?—I think so, if they cared to do so.

6243. There have been complaints, not from Holyhead at all, but from other ports, about the officials of the Society for the Prevention of Cruelty to Animals not being allowed to go on board?—So long as they do not become too troublesome I do not think we should raise any objection to their coming now and then; and we do not think we have got anything to hide.

6244. You said you wish the dealer's men would take charge of the beasts coming over?—Yes, I should prefer it.

6245. Can they be trusted not to get sea sick or not to get drunk, but to look after the beasts?—I think they would get accustomed to the sea sickness. On our cattle boats I do not think we have got any spirit license at present, so they would have to bring their drink with them.

6246. Independently of the question of the expense to your company, would you think it more satisfactory if the dealer's men looked after the cattle?—I think so. It ought to be to their interest as much as to the carriers to keep the beasts in good condition; and they would secure that better by having one man in charge throughout than they would by chopping and changing from, perhaps, a moderate man to an immoderate man in charge.

6247. (*Major Tennant.*) To pursue the question of the caretakers, I gather that you think in many instances the caretakers sent by the owners of the cattle are not very satisfactory as to the work they do?—No, not on board.

6248. Whereas the men who are appointed by the company to look after the cattle, do their work efficiently, do they not?—Yes, I think so.

6249. Then for the benefit of the animals I take it you think that it is better that the shipowner should supply the caretakers rather than that the owner should supply the caretakers?—No, I put it rather that the owner's drover is the proper person to do it; but, of course, if you relieve him of that and provide somebody else, and that somebody else has his duty to perform, if he is a conscientious man he will do it. Therefore, in that way you are so much better off by having the carrier's man.

6250. As a matter of fact, as things are, the animals are better off when the shipping company supply the caretaker than when the owner supplies the caretaker?—Yes, I should think so.

6251. You would rather, however, that the cattle owner should have the responsibility of providing the care?—Yes.

6252. How in that case would you provide for the small consignments of animals?—I should say they would put them under one drover—they would club together and put them under one man.

6253. You would still insist upon their providing the caretaker in some way or other?—Yes, I think they ought to if it was made obligatory upon them to do so we have got no power to insist, of course, now.

6254. You mentioned that the difference between your responsibility rate and the non-responsibility rate, if one may call it so, for cattle is 9d. per head?—I think that is from Dublin to Holyhead alone.

6255. We will assume it at 9d., if you please, if you can will you kindly explain what that 9d. covers; is there no responsibility at all on the part of the shipowner if the owner does not pay the 9d.; no responsibility under any circumstances?—Of course, as you will readily understand what is comprised in that is a matter of legal interpretation.

6256. But I want the railway company's interpretation, what is the North-Western Railway Company's interpretation?—Putting it broadly I cannot make it clearer than this, that for one rate the company undertake to bear their carrier's responsibility; under their lower rate they are relieved of that.

6257. (*Sir William Kaye.*) As a carrier your contracts must be reasonable?—Yes, in every respect the contract must be reasonable. Every contract we make, to be binding, must be reasonable, both in its condi-

tions, and in the difference in rate between the company's risk and the owner's risk; that is to say, if we were to say for a penny a head you shall relieve us of risk, I think that would be held to be unreasonable; or if we said: we will only take the risk when we are wilfully neglectful, I imagine that would be held to be unreasonable too.

6258. (*Chairman.*) Does the same rule apply to that portion of the transit that is by land to the sea transit; that is to say, if you book through from Dublin to Liverpool via Holyhead, what is your responsibility: carrying at owner's risk is your responsibility the same on board ship and in the subsequent railway carriage?—No; as a steamship owner there is a difference in the responsibility from that of a railway company on the land.

6259. Could you explain it from your point of view as understood by the company?—First of all, I think it is governed by the Merchant Shipping Act—

6260. You cannot do it, at all events?—No, I should not like to try to do it.

6261. (*Major Tennant.*) As a matter of fact you can contract yourself out of certain responsibilities as a shipowner, but you cannot contract yourself out of those same responsibilities as a railway company; is that the case?—I can.

6262. You can?—Yes, if I make a reasonable contract, and it is no uncommon thing in England to do so with cattle traffic. There is a certain rate at the carrier's risk and a certain lower rate at the owner's risk.

6263. Do you, as a matter of fact, carry cattle under both conditions?—Certainly.

6264. On your railway?—Certainly.

6265. As well as on the ship?—Yes.

6266. The conditions being practically the same?—Practically the same.

6267. Could you kindly supply us with a copy of the contract in each case?—Yes, certainly I will.

6268. I think you mentioned that some of your officials are careful to keep an exact record of all

The witness withdrew.

Major JOHN TRENCHARD TENNANT (a Member of the Committee) examined.

6279. (*Chairman.*) Will you please exactly define your position in the Board of Agriculture?—I am Principal of the Animals' Division of the Board of Agriculture.

6280. You, of course, have heard as a Member of this Committee a greater portion of the evidence given, and I understand that you would like to correct some statements that have been made in the course of the evidence as to the duties of the Board concerning the enforcement of regulations as to the sea transit of the cattle?—The duty of the Board of Agriculture, as regards the home traffic in animals is to exercise their powers under the existing Acts of 1878 and 1884 and 1886, and among other things to protect the animals, as far as practicable, from all suffering other than is inevitable from the journey that the animals have to perform, at the same time without unduly or unreasonably hampering the trade.

6281. There is one particular point that has been suggested, namely, additional inspection, not only on behalf of the Board of Agriculture, of ships during the voyage. What is your opinion on that point?—There is a staff of inspectors appointed by the Board that among other matters deal with all questions relating to the transit of animals in Great Britain. They have many other duties to perform, but together with those other duties they from time to time visit different ports in Great Britain where Irish cattle are landed, and see the animals landed, and also visit the vessels with the view of ascertaining that they are properly and suitably fitted as required by the Orders of the Board.

6282. As a matter of fact, do they make inspections frequently?—Not very frequently, it having been found that inspections on this side of the channel are not of much value. When a vessel arrives from Ireland, the arrangements are made for the landing of the animals before the ship is actually moored, and the fittings are taken down, the owners being naturally anxious to get

injuries that animals receive during the voyage as a protection to the company?—Yes.

6269. When is that record made out, as the animals land, or when?—As they land.

6270. As they come ashore?—As they come ashore at Holyhead.

6271. Could you provide the Committee, if they desire it, with a copy of one or two of those records as a specimen?—Yes.

6272. (*Chairman.*) A witness, a steamship owner, I think, suggested that there was a considerable amount of cruelty in shipping cows in calf, pregnant animals, on rough sea voyages; they slip their calves, and are put to a great deal of torture; and he suggested that it should be made illegal, that it should be prevented by law. Have you had your attention called to any suffering occurring from that cause?—There have been cases, but I have never heard of it as a ground of complaint.

6273. It is not a common thing?—No, I think not.

6274. (*Mr. Field.*) Have the railway companies ever considered the advisability of adopting a compulsory insurance rate, a rate something higher than would insure all the cattle. Have you ever had anything of that kind under your consideration, or are you not in a position to give an opinion about it?—For all practical purposes the company's risk is an insurance rate, and it would not be right, and it would not be held good as a reasonable contract, if the carrier was to say: I insist upon your paying the rate for which I undertake to take the risk, and I will give you no option.

6275. Then your own personal opinion is not much in favour of it?—It is in practical operation to-day.

6276. (*Mr. Cullen.*) Is that sunken passage that you described a covered passage?—No.

6277. (*Mr. Parker Smith.*) Are you bound to have the owner's risk rate on all your rates?—No, I do not think we are bound to, but it is almost the universal practice.

6278. (*Chairman.*) Do you happen to know what your rate for carrying horses from Dublin to Holyhead is?—I do not, but I can furnish you with it.

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the animals from the ship at the earliest possible moment. So that by the time the ship is moored, an inspector has very little opportunity of making any useful inspection, and all he can see is the condition in which the animals are landed.

6283. But what as to the inspection during the voyage?—There has never been any regular inspection of cattle ships during the voyage, for the following reasons. An inspector in a very short time would become so known that there would be special care taken on the occasions when he was known to be on board, and when it was known that he was not on board it would lead to carelessness on the part both of the ship-owners and of the men in charge. It has not been deemed expedient to employ detectives with a view of seeing the condition in which the animals were carried, although this suggestion has been often made and considered. But at the same time I may mention that during the last 15 years there have been very frequent occasions in which Inspectors of the Board have travelled with cattle; I have frequently done so myself when travelling from Ireland in connexion with other duties.

6284. And you have gone into the hold and into the 'tween decks?—Yes. I have been frequently down in the hold with the cattle—in all parts of the hold.

6285. Have these inspections on your part extended over a long time, and if so, have you found any improvement in the conditions under which cattle are carried in modern as compared with former days?—I made a considerable number of voyages in 1878, and although I made a few voyages between that and 1882, they were not very frequent. In 1889 I again made numerous voyages; since then I have only made two or three. I should say myself, speaking generally, that the conditions under which animals are carried have improved considerably since 1878, but I should imagine from the reports I have received, and from what I have heard, that the condition of affairs now is very much the same as it was in 1889.

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6286. Assuming the Committee to make any recommendations bearing on the prevention to cruelty to animals and not otherwise connected with the agricultural industry, would the Board of Agriculture, so far as you know its views upon the subject, consider that that was a matter that came within its cognizance?—I think they certainly would be bound to deal with that point under the Act of 1878, section 32, subsection 24. The Board is given power to protect animals from unnecessary suffering during the passage and on landing.

6287. In the course of your personal experience, and in the course of your official experience, have you had your attention called to the frequency of what we have heard alleged to be a very common thing on the part of some of the witnesses, but absolutely denied on the part of others, namely, ammonia blindness?—I have not had any case actually come before me, and I have never had any official report on that subject, but I have heard it casually mentioned by dealers and others. I fancy it is a rare occurrence, but that it has occurred.

6288. Then I understand that you are inclined to attribute a good deal of mischief to the horns of the cattle, so much so that you are inclined rather to favour dishorning?—My own opinion, from what I have seen and from what I have heard, is that a very large proportion of the suffering that cattle undergo during transit is due to the fact of their carrying horns.

6289. Have you not been rather struck with the absence of any reference to that method of injury in the evidence we have received?—I have been very much struck with it, because it does not accord with my own experience in the matter.

6290. In connection with this subject of dishorning, I have no doubt you are thoroughly acquainted with the state of the law on the subject; will you state to the Committee exactly what it is?—I am afraid it would be impossible for anyone to say exactly what is the state of the law as regards dishorning. There have been decisions apparently both ways in all three countries, England, Scotland, and Ireland, and I take it that the judges have arrived at their decision in each individual case on the question as to whether in that particular instance cruelty was practised or not.

6291. On that point you would like to see the matter decided, I presume, in favour of dishorning?—My own view is that it would be of great advantage if there could be an enactment prohibiting the dishorning of cattle after a certain age, unless the operation was carried out under the supervision of a qualified veterinary surgeon, who certified that he thought it was desirable or necessary that the operation should be performed. I think the effect of that would be that a very large proportion of the cattle which are now not dishorned until late in life would be dishorned at such a very early age that it would practically cause no pain or suffering to them at all. I think that would be very much to the benefit of the animals, and also very much to the benefit of the farmers and the dealers.

6292. There has been a statement made to us, specially by one witness as to the frequency of the practice of marking pigs by cutting them with a knife; has your attention been called to that?—I never heard of it until it was stated in this room.

6293. Now that your attention has been called to it, I suppose that is a subject that your Board could put a stop to without any legislation?—I take it that they would be disposed to leave that to owners to deal with themselves. I should think that every man who owned a pig would most strongly object to maiming and injury of that kind which must seriously affect the value of the pig.

6294. I was simply asking whether from the prevention of cruelty to animals point of view that would be one of the points on which your Department would have power to interfere?—I think that if it became general and notorious the Board certainly would deal with it. I am only expressing my own opinion, but I think they would.

6295. (Mr. Parker Smith.) Is the inspection of the vessels by your inspectors with a view to protection against disease, and to precautions against infection, or is it also as to the structural conditions?—For both purposes.

6296. You are entitled to look into the structural conditions, too?—Yes.

6297. Have you any arrangements of combining inspection under the Board of Agriculture with the Board of Trade inspectors as we heard is the case in Ireland?—No, we have not on this side.

6298. Do you think that would be expedient?—On this side I think it would not be expedient. It is carried out on the Irish side and very usefully carried out there, but I think myself that any arrangement of that kind with the Board of Trade might rather hamper the hands of the Board of Agriculture should they attempt to prosecute an offender for having imperfect fittings or imperfect ventilation. The Board on this side, I think, should judge very much by the results of the carriage of animals, and if it was found that as a matter of fact animals had been smothered in large numbers owing to a want of ventilation, the Board, I think, ought to have a perfectly free hand to prosecute the offenders. If they recognised an inspection by the Inspector of the Board of Trade, and a certificate was produced that that inspection had been made of that very vessel by an Inspector of the Board of Trade with the sanction and approval of the Board of Agriculture, I think it would make it extremely improbable that the Board would get a conviction.

6299. But I suppose in any such case of a prosecution they would produce an Irish certificate?—True, but that would to a certain degree, I think, still leave the Board of Agriculture free to judge by results.

6300. And those considerations over-weigh in your mind the desire that I daresay you heard some of the ship owners express for having a single inspection by a single inspector?—Yes.

6301. You gave us various objections to an inspector travelling on board; but do you not think there are other points such as ventilation which he would be much better able to judge of by travelling on board?—I do not think so. I think myself that you must judge more by results than by appearances. Although the cattle might appear distressed on the voyage I doubt whether that would enable the Board to get a conviction against the owner of the vessel for want of proper ventilation, but if a considerable number of animals died, I think then probably the Board could get a conviction, and the fact of an inspector being on board in such a case would not aid the Board in the prosecution.

6302. According to the evidence the evil that is complained of is not so much that animals die, but that animals suffer?—That is so, and unfortunately it is a matter that is exceedingly difficult to be dealt with by the Government. Magistrates before whom prosecutions are brought are naturally, and I should say properly, exceedingly careful to insist upon a case being proved up to the hilt where a Government Department institute a prosecution, and they have generally shown a great unwillingness to convict except on the very clearest evidence, being of opinion apparently that if there is simply injury done to animals then it ought to be left to the owner of those animals to recover by civil action for any injury that has been done.

6303. Do you imagine there is much difference of treatment between the good lines, such as we have been having witnesses from, and the more casual tramp steamers?—I think the treatment that the cattle receive on the sea voyage depends to a very great extent on the circumstances under which they are carried between port and port. Where the voyage is a rather long one, and the traffic is not subject to sudden violent increases, the animals are usually carried very well. Where the injury for the most part occurs, in my opinion, is on the shorter voyages, and where the circumstances of the trade cause a sudden rise in the traffic—a large increase. Then there is great pressure, overcrowding, and want of ventilation, and the stick becomes more prominent than on any other occasion. That is when the injury is done.

6304. Would you consider those kind of circumstances more likely to obtain in the case of small companies or single boats than in the large lines, from whom we have been having witnesses the last two or three days?—Yes; on the whole I should say there would be a slight increase of the probability of ill-usage on the smaller lines, but it might occur on any line under great pressure.

6305. Are you satisfied with the powers which the Board of Agriculture has at present in regard to superintending these beasts, or do you wish for additional powers?—I should like further powers. I think the Board might, with advantage, have further powers.

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6306. What powers would you like?—Of course, it must be for the Board to consider the policy of any suggestions of the kind, but at the same time I think that there might be advantage gained, if the Board had power to insist upon a report from the masters of vessels, or from the owners of vessels, in all cases of loss of animals during the voyage—something similar to the power, I believe, possessed by the Board of Trade with regard to serious injury to a vessel, or to loss of human life on board. I think that might be of advantage. Then I think also, it would be of advantage if the Board had power to authorise local authorities to control drovers. At present they have no such powers.

6307. (*Chairman.*) To enable local authorities to do so?—Yes, to enable them.

6308. (*Sir William Kaye.*) Do you mean by way of licensing?—By way of licensing and general control. Those are the two most prominent points that occur to me.

6309. (*Mr. Parker Smith.*) Have you any power to compel local authorities to act under the Act of 1878, is it not?—Yes, section 41 requires every local authority "to execute and enforce this Act, and every Order of Council as far as the same are to be executed or enforced by local authorities"; and then the section goes on to describe what process may follow supposing the local authority fail to do their duty.

6310. We heard, for example, if I am not mistaken, that in Glasgow the local authority had not acted under that section?—I did not myself understand that there was any admission as far as that. Professor McCall, if I remember right, stated that he had himself occasionally visited vessels. But of course it is a question of how far local authorities should act in a question of this kind, and how far it would fall within their duties.

6311. You never have tried to press on local authorities to act more than they were inclined to do in the matter?—Recommendations have been made, but in connection with the carrying trade the Board have never exercised their powers under the latter part of the section. They have for other purposes, but not for the purposes of transit.

6312. Do you rely much on the assistance of the Societies for the Prevention of Cruelty to Animals, do you consider that they assist much with their supervision in matters of this kind?—I think they have done a great deal of good. I am a subscriber to the society myself, and I think they have done exceedingly useful service in many directions, but of course it does occasionally happen, I fancy, that from excess of zeal their inspectors are sometimes not quite so discreet as they might be in the performance of their duties.

6313. Do you think their inspectors ought to have any additional facilities for going on board the ships and seeing the cattle?—I should not be inclined myself to give them any further legal powers, but so far as could be done I think the carrying companies should be encouraged to admit the inspectors of the society where there is no strong objection to it, and I might mention that that has been done in very many cases. The carrying companies have been encouraged to admit the inspectors of the society, and I think in many cases with advantage.

6314. They have been encouraged by the Board of Agriculture?—Yes.

6315. Can you say whether the companies have admitted them?—Yes, they have on many occasions.

6316. Can you say where?—I could not at this moment name any company, but my own belief is that there are several companies in the American cattle trade that have, owing to the representations of the Board, admitted inspectors of the Society.

6317. You are not thinking of any of the Irish companies?—I cannot at this moment recall any case, although I should think probably there are some in past years.

6318. We have heard a great deal of evidence about goads; I think your opinion is in favour of goads?—Most decidedly.

6319. Do you know the Cruelty to Animals Act?—I have read it.

6320. You are not prepared to give any evidence upon it?—No, I should not be prepared to give any evidence upon it.

6321. (*Mr. Field.*) I understood you to say that it was within the power of the Board of Agriculture to endeavour to stop all suffering other than that which was inevitable owing to the circumstances of the voyage?—They have the power under the section that I mentioned to you.

6322. How have the Board of Agriculture endeavoured to act up to that power in regard to the transit of cattle between England and Ireland?—By making regulations contained in the Animals Order of 1886, and doing their best as far as circumstances permit to give effect to that Order.

6323. What steps has the Board taken, may I ask, to see that those Orders have been carried into effect practically?—The steps that I have mentioned in reply to a question of the Chairman.

6324. Am I correct in my assumption that between Ireland and England there appears to be a sort of vacuum of authority, inasmuch as the Veterinary Department of the Privy Council of Dublin are charged with the duty of seeing that the cattle are free from disease and properly loaded, and then when the cattle or the live stock come to England you receive them, is that not so?—Yes.

6325. As a rule—of course there are exceptions—there is no kind of supervision generally exercised on the voyage?—Not by the Government.

6326. From either side of the Channel?—No.

6327. Do you think it desirable that some authority, either the Veterinary Department of the Privy Council or the Board of Agriculture should make some arrangement whereby a mutual intercourse could take place over this portion of the Channel occasionally?—It is a point that has occurred to me very often, and I have considered it many times. There is much to be said in favour of both views, but on the whole I am inclined to say that I think it would be better that there certainly should not be any regular inspection during the voyage.

6328. I am inclined to agree with you myself, but would it not be well if you had inspectors occasionally, and change these men so that their personality would not be known?—Yes, perhaps it might occasionally.

6329. And then they might look into the ventilation and into the questions of lighting, of embarkation, of debarkation, and of general conditions during transit, and make a report to both sides of the Channel which would probably lead to very useful and practical results?—I do not know that; that is a question.

6330. I said probably—it would put us in the way of it?—I should not be prepared to go quite so far as to say that the probability exists.

6331. Am I to take it as your skilled opinion—that such a thing would be useful occasionally; I do not want to lay it down as a rule, but occasionally the mere fact of such a thing being done would have a useful effect?—It might be so. My reason for saying that is, that I think when from time to time an opportunity has occurred for an inspector to travel with these vessels, information has been occasionally obtained that has been useful.

6332. Would you go so far as to say, without giving a very definite opinion on the subject, that occasional visits of that kind would, in your opinion, be useful?—They might be useful so long as the trade generally did not expect too much from them.

6333. Do you think that the fact of both those Departments exercising an efficient supervision on each side of the Channel would not exercise a corresponding influence on the carrying companies and also on the men who are even sometimes shipping cattle and are not inclined to carry out the regulations?—No, I do not think it would have that effect.

6334. That is not the result of your experience?—No.

6335. You are entirely in favour of the dishorning of cattle under the conditions you mention?—Yes.

6336. I think it was mentioned by the Hon. Member for Glasgow, I think it was yourself though, that the magistrates expected the owners to recover damages by action if any injury was done to their cattle and that that was one of the reasons why the magistrates were so careful about giving damages against the carrying companies?—Against fining them, yes.

6337. Have any of these cases come under your notice?—What cases do you mean?

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6338. Cases of owners taking actions against carrying companies?—I have heard from time to time of their attempts to do it, but the result does not generally seem very encouraging.

6339. Do you know whether it is satisfactory or not?—I say, generally, that it does not appear that it is very encouraging.

6340. As far as your knowledge goes, is not the result the reverse of satisfactory?—Reverse of satisfactory, I should say, and apparently for this reason, that an animal almost invariably has a land journey besides the sea journey.

6341. You cannot fix the responsibility?—It is practically impossible to localise the injury; that has always been the difficulty.

6342. You cannot fix the responsibility?—You cannot fix the responsibility.

6343. Under those circumstances, would you think it advisable that the Government should endeavour to help owners of cattle in cases of this kind?—With a view of recovering damages?

6344. Yes?—No, I should say not.

6345. Would you suggest that this Committee in their report should make recommendations that the Board of Agriculture should have further powers regarding local authorities about licensing drovers and about making reports in cases where great injury or mortality occurred?—I am a witness, but at the same time as a member of the Committee, I think I would rather leave myself with a free hand until the matter is considered as to what recommendations should be made.

6346. As a witness, your opinion is that the Board of Agriculture ought to be granted these powers, you think that would be an advisable thing to do?—I think I gave an answer to the Chairman on that point.

6347. With respect to these contract notes, are you of opinion that this system of contract notes—consignment notes—whereby the carrying companies contract themselves out of all liability is at the root of all this mischief?—I think on that, again, as a member of the Committee, I would rather be allowed a free hand when the decision of the Committee is being arrived at.

6348. (Mr. Cullen.) Could you point out to me (I am a magistrate in Liverpool and I have to deal with these very cases), how we could obtain a conviction in any of these cases under the existing powers?—What cases do you refer to?

6349. Damage to cattle on shipboard. You have referred to injured cattle arriving; these cattle arrive injured mostly, it is alleged, in consequence of the neglect of the instructions and of the regulations on shipboard, but we can get no evidence to prove that; the reason being that in the ordinary cases of evidence under the Contagious Diseases (Animals) Act the persons have to prove a negative; that is, in the event of any injury to an animal if the animal was landed injured the carriers say that all the regulations in force in Dublin were carried out, and the person aggrieved has to disprove that?—I do not know of any such case. I am not cognizant of the details of any action to recover damages.

6350. That is what the magistrates have to decide; it has come up over and over again, but we have no means of doing it and there is no use referring it to us without we get the law enlarged. You are not satisfied, I understand, with the power?—I am not going into any question of that kind. It is a question I take it of common law as to how a man could recover for injury. It is not within the scope of my duties to go into that question.

6351. I am not talking about that, but there are summonses or damages to cattle, and it is contended that the regulations have not been carried out?—I am afraid I cannot help you there.

6352. (Mr. Booth.) In the case you were speaking of, of the possibility of having it so ordered that the captain or owner should report all cases of loss or damage, in a case where there is a bad loss, and a good many animals are landed in a very much damaged condition, crushed and injured, do you think there ought to be an inquiry held under the Board of Agriculture as to the cause of such loss?—I might mention that immediately the Board get information indirectly from newspapers or any other source, or any complaint is made by a dealer or other person, the Board invariably directs an inquiry to be made on the spot in an unofficial form. No doubt

if, as I suggest, the captain or the owner were bound to report a loss, that inquiry would be put into a better position, it would be made a quicker and therefore a more efficient inquiry, and therefore it would have more effect probably. But I should not myself suggest that any regular official inquiry should be held, because the semi-official inquiry, if one may call it so, that is made now by the travelling inspector is generally more useful I think than if you sit down in a Court and take evidence in a formal sort of way.

6353. Is there any official or inspector of the Board of Agriculture in each district, especially in districts where Irish cattle arrive, who may be applied to, or before whom information might immediately be laid as to the arrival of a boat with damaged cattle and who would be able to take steps?—The Board do not have inspectors in particular districts. Their district is wherever they happen to be wanted at the time and that is found the best system of working generally. But this course is always followed: whenever there is a serious loss the nearest inspector is at once instructed by telegram to proceed to the spot and make a practical inquiry.

6354. Then are the fixed inspectors of the Board of Agriculture only in those districts where foreign cattle land?—I think probably you are speaking now of the Veterinary Inspectors of ports.

6355. Possibly I am?—Their duties are confined to the professional questions that arise as to disease and they do not go beyond that. The inquiries, such as I mention, are carried out by the non-professional inspectors.

6356. My question is whether there is any official under the Board of Agriculture who could act in such a case, and the information is that there is not?—There always is one in the neighbourhood.

6357. A travelling inspector?—Yes, But there is none on the spot—not necessarily on the spot.

6358. (Mr. Field.) He might be?—Yes, he might be.

6359. (Mr. Booth.) Supposing the need was admitted of some authority in such a case as I have mentioned of extremely bad damage—in case of the need being found of an authority to order the slaughter or the prompt disposal of animals landed; you are left between two stools as it were, and the owner for whatever reason perhaps cannot recognise his own beast or is unable to receive it in that damaged condition; could any authority from your view, as the Board of Agriculture, be appointed with power to order the prompt disposal of those beasts?—I think that a power might be given and a direction might be given to the master of the vessel to slaughter any animals seriously injured in a very similar way to the power that is now given of that kind in the American trade. That might I think be extended to the Irish trade. But I think that the Board of Agriculture would be very unwilling to accept, and I should say the trade would be very unwilling to give, a general power to an inspector of the Board to order the slaughter of any cattle he liked.

6360. (Mr. Watson.) In reference to injuries such as we have heard described here by witnesses, not discoverable on landing but arising afterwards, how are reports made to the Board of Agriculture?—It is very rare that anything of a specific character is reported. The complaints received are generally of a general character and therefore it is almost impossible to deal with them.

6361. Have you had any specific complaints of that kind?—Yes, one or two. I have in my mind now two certainly at Glasgow, but of course when inquiry was made—it being ascertained that the animals had come a considerable land journey before shipment—it was perfectly impossible to localise the injury. There were certain suggestions in one place I remember in one case that the appearance of the bruise indicated that it had been very recently inflicted, but as the day journey had been performed only some 36 hours before the bruise was seen it was of course very difficult to make any computation from that as to whether it had occurred during the land or sea journey.

6362. Have any such cases been reported from Holyhead or Liverpool?—No, not to my knowledge except general ones.

6363. No reports have been made?—Not specifically.

6364. As to the reports that you speak of by way of a suggestion from the master of the vessel, do you mean

that they should be made in really bad cases like the "Black-rock" or the "Mayo" that we have been hearing of—not in the case of the death of a beast, I presume?—You mean the report?

6365. Yes?—I should propose that the report should be made in all cases where there is a death.

6366. Whenever a beast dies?—Whenever a beast dies during the voyage.

6367. As regards dishorning you say that you have not heard here any evidence of injuries on board by horns; but can you tell me whether the horns do more damage on board ship or in railway waggons?—I have never travelled in a truck with cattle, but I have travelled in the hold of a ship with cattle and I have seen cruel and horrible injuries from horns.

6368. With animals that were tied up?—In some cases when they were tied up, but more frequently when they were not tied up.

6369. The reason of my questions is this: it seems to me a difficulty to tie up the animals if they have not the horns and that we are introducing another evil. I should like to ask whether you mean that?—You are quite right; I quite agree with you from one point of view. The drover who gave evidence here objected very much to dishorning on the ground of the very great trouble it would occasion. Of course if an animal has got horns, all the caretaker has to do is to throw a halter with a loop over the horns and then the animal is all ready to tie up. If they have no horns the process will be very much more elaborate; you have got to get the loop over the beast's head and then you have got to knot it to avoid strangling and the reverse process of un-knotting has to be done when the animal comes out, and so the tying up is very much more troublesome. But so far as I have seen I should say that when an animal is dishorned young its whole character is changed; it becomes docile and quiet, and dishorned cattle are disinclined to hurt each other, and the tying up is not nearly so important with them as with horned cattle. It would only be necessary, I think, in the case of very heavy beasts. It would no longer be necessary to tie up the ordinary two year old or young stores at all.

6370. You think even taking into account the difficulty of tying an animal that has not horns, still dishorning is good for cattle in sea transit?—It would be an enormous advantage to everybody connected with the trade, shippers and all, in my opinion.

6371. In reference to reports of injury from want of ventilation, how do those come before the Board of Agriculture?—They come in two ways; either the inspector reports that he has visited the ship and from his experience he should say that if the hold were full of cattle the ventilation would be obviously insufficient and would not comply with the requirements of this order—

6372. I do not exactly mean that: I mean reports of specific cases of injury having arisen?—I say it comes in two ways: it either comes in that way I have just mentioned or it comes as a specific complaint from an owner whose cattle have suffered. I might mention that the reports on that point have been extremely rare.

6373. Extremely rare?—Yes.

6374. As regards the Board of Trade surveying the ship at the same time that they survey for the pas-

senger's certificate in an English port, I do not quite see your difficulty that it would interfere any more with your subsequent jurisdiction than if she were surveyed in Ireland?—It is this difficulty. If you are going to have an inspection by the Board of Trade and a license given, it means to say that the inspector must accept the minimum that it is possible to accept. If you simply go by results, and I think the Board of Agriculture ought to go by results, you do not have to accept a minimum at all, but can prosecute a ship-owner should serious loss arise owing to his neglect. It would be impossible to prosecute if you were confronted with a licence and the conditions of the licence had not been contravened.

6375. I do not exactly go to that point. I want to see whether the objection is to this being done in England; I could understand the objection to its being done in England; why would England make it any worse?—The objection to it being done in England would be this: it would have to be done by the sanction of the Board, and in my opinion it would probably stultify any proceedings that the Board might take if they were faced by a certificate of an Inspector of the Board of Trade that in his opinion the requirements of the Order had been fulfilled. It is very useful on the other side, but I do not think it would be useful on this side.

6376. When you say they would take the minimum I do not quite understand it?—An Inspector of the Board of Trade could not refuse to license a vessel so long as the bare requirements of the Order were fulfilled.

6377. (*Chairman.*) Do you think it would be of any advantage in addition to asking the steamship captains to report cases of death, to instruct market authorities to report to the Board of Agriculture any cases of bad bruising?—I am afraid it would be practically impossible to trace the animal. The animal might not have come by sea at all; it might come a land journey and yet be seriously bruised.

6378. Yes, but in many cases you would be able to trace and in many cases I think it might probably direct your suspicion?—Supposing a man buys ten fat beasts in Stanley Market, and he takes them into the Liverpool slaughter-house and slaughters them, and he says that three or four of those carcasses appeared to be very seriously bruised: it transpires perhaps that he has bought those ten animals of different dealers; they might have come by different routes from Ireland, one by Dundalk, another by Drogheda, two or three by Dublin, another perhaps by Holyhead. I do not think it would be possible to trace them.

6379. (*Mr. Field.*) Has it been systematic or has it been usual at all for the owners of cattle to report injuries, or bruises, or want of ventilation, or complaints of that kind to the Board of Agriculture?—No, not specific cases. They have been very rare so far as my knowledge goes.

6380. The reason I ask the question is that it appears to me from what I know of the subject, and I want to be confirmed by your greater experience officially, that the majority of the men in the trade have not got into touch, as it were, with your Board of Agriculture as an Official Board, to whom they ought to make complaints, is that your experience with regard to cross-Channel transit?—As far as I know when they think they can get any useful aid they have come to us very readily.

Major
J. T. Tennant.

1 May 1894.

Adjourned till to-morrow at 11 o'clock.

TENTH DAY.

At No. 7, Whitehall Place, S.W.

Wednesday, 2nd May 1894.

PRESENT:

SIR CHARLES CAMERON, BART., M.P., IN THE CHAIR.

Sir WILLIAM S. B. KAYE, C.B., Q.C.
 Mr. ALFRED BOOTH.
 Mr. HUGH CULLEN.
 Mr. W. FIELD, M.P.

Mr. J. PARKER SMITH, M.P.
 Major JOHN TRENCHARD TENNANT.
 Mr. INGRAM B. WALKER.
 Mr. WILLIAM WATSON.

Mr. E. G. HAYGARTH BROWN, *Secretary*.

Mr. GEORGE J. NOAKES called and examined.

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6381. (*Chairman*.) You are a marine salvage surveyor in Liverpool, are you not?—Yes.

6382. And you have acted as salvage surveyor for a number of insurance companies?—Yes.

6383. Such as the Union Marine Insurance Company, the Reliance Marine Insurance Company, the British and Foreign Marine Insurance Company, the Standard Marine Insurance Company, the Sea Insurance Company, and as representing American and Canadian underwriters?—Yes.

6384. So that your business has brought you into contact with a number of cases in which you have acted on account of injury to cattle in transit?—Yes, that is principally in the American trade.

6385. Is it exclusively in the American trade?—Not exclusively.

6386. Among other insurance companies the Ulster Marine Insurance Company of Belfast have employed you as agent to look after their interest in the Channel trade?—Yes.

6387. And on their behalf you have inspected steamers at Dublin, Glasgow, Silloth, and Morecambe?—Yes.

6388. Even that does not exhaust your opportunities for acquiring experience in this matter. You act also for some underwriters in the River Plate?—I have surveyed cattle from the River Plate, acting for English insurance companies.

6389. In connexion with the discharge of those duties what have you to do; do you meet the steamers on arrival?—We meet the steamers on arrival, and acting for the underwriters we generally see the cattle landed and inspect the fittings and the men employed.

6390. You have to report to the underwriters about the fittings, the ventilation and kind and condition of the cattle and the men employed, &c.?—Yes.

6391. And also the cause of loss, if any, and suggest how to avoid a similar loss in future?—Yes.

6392. You also attend to the slaughtering or careful landing of sick or injured beasts, with the object of realising the best possible salvage, I suppose?—Yes.

6393. In connexion with the last branch of the subject, have you any suggestion to make in the treatment of injured beasts. You need not trouble about sick beasts. I suppose with regard to the Irish cattle you do not come across many sick?—Yes, of course, there are injured beasts among the Irish cattle.

6394. Exactly. Have you any suggestion to make as to any improvement of the law being necessary, and as to their treatment?—I think the steamship people should be in a position to get a competent man or men to treat these beasts, and not to leave it to anybody as we have seen.

6395. You say "to treat," what do you mean by that?—To kill them when necessary in a proper manner.

6396. Would you be for giving power to the captain, such as is possessed, I believe, under the American regulations to slaughter the beasts that are really seriously injured?—Yes, I would.

6397. Now might I ask you how is that arranged in the American trade; if a captain orders animals to be slaughtered, what rights have the proprietors and underwriters in the matter?—They always take it as a matter of course. In every case that I have inquired into we have never found that there has been unnecessary slaughter.

6398. Never found but what it was necessary, is that so?—We have thought it was necessary for them to kill.

6399. You do not find any friction through the exercise of that power?—Not the slightest.

6400. You think that that is a power which, as far as the underwriters and shippers are concerned, might be fairly entrusted to the captain?—Yes, I think so.

6401. Your late brother and yourself jointly assisted the Liverpool Steamship Owners' Association in preparing their evidence for the Committee which inquired into the cattle trade in 1890?—Yes.

6402. And since then the Atlantic cattle trade has generally employed you, and you gave evidence in connexion with several points on which improvements have taken place?—My brother gave evidence, but we prepared the evidence jointly.

6403. In connexion with the points urged we know what have been adopted. Were there points in which you wish the improvements to be adopted where your evidence was not regarded; any points which you still think susceptible of improvement in that trade, and which would be applicable to the Channel traffic?—As far as the Atlantic trade is concerned I think it is perfect; it has improved wonderfully since then. Of course the Channel trade is quite different; there is plenty of room for improvement in the Channel trade.

6404. But you do not attribute that improvement in the Atlantic trade so much to legislation as to the effect of public opinion?—I think that has had a great deal to do with it, and the fact of having an inquiry.

6405. And the effect of that inquiry you think has been to cause all who are connected with the trade, shippers, shipowners, &c., to perceive that to preserve the trade, and land the cattle in good condition and humanely, they must pay more attention to them as live stock, and not treat them simply as freight?—That is so. We have had instances lately where the boats have arrived been four or five days late through trying to nurse the cattle. Before the Plimsoll inquiry they would have come straight through the bad weather and have lost the cattle.

6406. Do you think improvement that is general?—That is general now.

6407. Had any improvement been made in the allowance of water and food since that inquiry?—No, except that all the new ships carry fresh water instead of condensing it.

6408. In what way do you speak of that as an improvement?—The ships have been built specially for the trade. You see in the old boats they used to condense the water, and that is bad for cattle, especially

when it is done hurriedly, because if they have not got every means of cooling it they give this condensed water in a hot state, and it scours them; and now they all carry fresh water.

6409. What improvements do you think are necessary in the Channel trade?—To put it concisely the cattle must be shipped in good condition, and then on the ship they must be tied across the foothold, and they must not be overcrowded. Then I think the ventilation is quite open to improvement.

6410. Before we come to the ventilation take the tying; how do you suggest that they should be tied, toward the side or amidships?—Towards amidships.

6411. Then coming to the pens, you say they should be stable, and not too big; you consider that the present size of pen sanctioned by the Order of the Privy Council is too big?—I think the American way is more preferable, where you have only four beasts in a pen, and upright division board.

6412. Have you ever made any calculation as to the difference in carrying power with the adoption of that style of pen would involve?—I do not think it would make any difference, not the pen itself.

6413. But in the American lines the cattle have room to lie down, have not they?—They have.

6414. If you adopted the American system you could not get practically as many cattle in the ship as under the present arrangement?—I would not give them room to lie down; it is only the system I was advocating.

6415. But in a certain line to which our inquiry extends, that is, from Limerick to Liverpool, or take any other British port, do not you think it would be necessary to make some provision for the cattle lying down?—I do not know.

6416. Take a 30 hours' journey?—I think they could stand it without lying down.

6417. After a railway journey?—I say they must be shipped in good condition; that is the secret of the thing. If the cattle are not shipped in good condition you will never land them in good condition.

6418. At all events, you do not think that the adoption of small pens that would only hold four beasts each, could be adopted? I presume you mean fat beasts?—Fat beasts, I do.

6419. You do not think that they would materially diminish the carrying capacity of the ship?—I do not see that it would diminish it at all, that is, if the beasts were tied up. As long as the cattle are tied up the pen would not affect the carrying power, because they would be all one after the other; the division is only two upright boards.

6420. It would increase the cost of the fittings, I presume?—I hardly think it would; of course it would at first, being new things.

6421. But you do not think it would materially increase the cost of the cattle transit?—No, I do not think so.

6422. Then you would have the cattle tied with their heads towards the centre of the ship?—Yes.

6423. Would you be for insisting upon a passage in front of the heads of the cattle?—I think it is necessary.

6424. For the purpose of feeding or watering?—For the purpose of attending to them, and if you tied them with their heads amidships you could not do it without a passage.

6425. With your experience of Channel cattle carrying ships, are there any fitted up in the way you have described?—Not that I have seen.

6426. The method you describe is an idea adopted from the American system?—Yes.

6427. We have been talking about four beasts in each pen, but you suggest in your statement that not more than five beasts should be placed in a pen?—I think they could carry five if they were standing up.

6428. How many cattle could be put into the largest sized pen allowed under the Privy Council Order?—Well, from what I have seen they put in as many as they can get in any way.

6429. That is so; but how many fat cattle could they get in?—I never went into the question; I do not know. That is a space of 10 feet—the American pen.

6430. And you think that they could get five cattle into 10 feet?—Yes.

6431. Then as to the size of the pen that you suggest?—10 feet long by, I should say, 7 feet 6 inches. The American pen in 8 feet deep.

6432. Why shorten it by 6 inches?—Because they would not want to lie down.

6433. Do you think that that would avoid all the serious evils that we have heard of as resulting from cattle lying down and getting trampled upon?—I do not think that they would get down if they were tied up by the head.

6434. They would be liable to slip always?—Then they must get them up; the attendants must look after that.

6435. That brings us to the subject of attendants. What have you to say to that point?—I think that they want more attendants.

6436. We have heard that in certain lines the ship carries no cattlemen, but on other lines the ship does carry cattlemen?—Yes.

6437. And that most of those lines where cattlemen are carried free passes are given to drovers under the original idea that they should look after the cattle. What do you suggest?—I think that competent men should be employed by the ship more especially where there are different lots of cattle.

6438. You have seen a large number of ships, and you have reported on a good many. Do you find that in cases where the men are employed by the ships that better results have followed than where there have been either no men and the care has been entrusted to the crew or they have been left to the drovers in the employ of the shippers?—I cannot say. I should prefer the men to be employed by the ship.

6439. What is the rule in the American trade?—Four men to every 100 beasts, and these men are on the ship's articles; they are employed by the shipper of the cattle and paid by him, but they are put on the ship's articles.

6440. And they are put upon the articles simply to make them amenable to the orders of the captain, I suppose?—Yes.

6441. That is a system that does not prevail with us at all in the Channel traffic?—No.

6442. In the Atlantic traffic are these cattlemen of a satisfactory character, or are they men with no special knowledge?—They are every kind of men; you find a number of very competent men, and they are perhaps kept on the same boat for years—months—at any rate, voyages. Of course a number of them are what they call "stiffs," who get their passage for nothing, but they always have a certain number of competent men.

6443. These competent men you say are paid by the shipper, but they are under the ship's articles?—Yes.

6444. I suppose the ship-owning company makes over these men, or rather recommends these men to the shippers; is that the way that it is worked?—The same shippers ship year after year, and these men are in their employ entirely.

6445. Have they lots coming over in every boat?—In every boat there are four men to 100 cattle; they get trip money—so much for the voyage and get sent back.

6446. Do you know anything about their wages?—Yes; the foreman gets 50 dollars and the first class hands get 25 to 30 dollars, and then it goes down; and some only get 10s.

6447. In whose employ is the foreman?—He is in the employ of the shipper of the cattle.

6448. The shipper of the cattle would only require a foreman where there is a large number sent?—There is a foreman in every boat; every boat that comes has a foreman.

6449. That is what I wish you to explain. Every boat has a foreman you say?—Yes.

6450. And the ship is not loaded with cattle belonging to a certain consignee?—Perhaps there are two or three shippers each sending a foreman, or one foreman may act for them all.

6451. These foremen are all competent men?—Yes, nearly all of them.

6452. Now, as to the subject of ventilation; what do you say upon that point?—What is your experience as

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to the ventilation of the Channel boats into the 'tween decks of the lower hold?—It is very much on the minimum scale as compared with the Atlantic boats.

6453. How is it managed in the Atlantic boats? Is there any scale to which they must come up—that is, a scale of how many cubic feet per hour per beast, or is there any way of defining the ventilation in the Atlantic?—I do not think that they work it out by figures. The principle of ventilation is to ventilate both the ends of the hold.

6454. But you may ventilate that. I ask you a question and I wish it answered for this reason: that we have been told that although the order is that the ventilation shall be satisfactory or sufficient there is nothing to lay down the principle of what is sufficient?—We have never heard of it in the trade.

6455. In connexion with the American trade have you had any experience of cattle being smothered through insufficient ventilation?—Yes. We have often had that. Of course they do not always allow them to get smothered; they move them, but the ventilation is bad just the same.

6456. Is that frequent?—Not so frequent as it used to be.

6457. Is it frequent in your experience in the Channel trade?—No; I have not seen much of it in the Channel trade.

6458. What is your idea as to the state of ventilation in the Channel trade?—From what I saw I would not call the boats well ventilated.

6459. We have been told about holds so badly ventilated that it is quite impossible for an ordinary man to go down and stay for an ordinary length of time?—Yes.

6460. That the ammonia stench is so strong that numbers of the cattle were blinded. Does your experience lead you to think that such statements are correct or exaggerated?—I believe that it is quite possible.

6461. What is quite possible?—For a beast to be blinded.

6462. Have you seen many cases of this ammonia blindness?—No, I have not.

6463. (*Sir William Kaye.*) Have you seen any?—I do not think I have seen any.

6464. (*Chairman.*) Are any claims made upon underwriters in respect of that form of injury?—No.

6465. Have you any opinion as to the superiority of vessels with mechanical ventilation as well as with ventilation by cowls and windsails?—I think that a boat first of all should be intelligently ventilated in an ordinary way, and then I believe in mechanical ventilation as an auxiliary, but you do not get the same air, I think.

6466. Then you think it is necessary that there should be mechanical ventilation as an auxiliary?—I think in the case of fogs on the river that it would be necessary.

6467. Let us go into that particular case of fogs on the river, where you have cattle delayed, and where there is no wind blowing down the ventilators—have you come across any case where the cattle have been smothered so seriously for want of ventilation?—In the American trade?

6468. No, in the Channel trade?—I have not had as much to do with the Channel trade as with the American trade.

6469. But you have had a great deal to do with the Channel trade?—Yes, I have seen a great deal of it, but in the other trade I am in it all the time.

6470. Do you lay a great stress upon the breakwater on the forecastle head?—Yes.

6471. Do you come across many instances of cattle being carried away or seriously injured or drowned through the water breaking over the bows?—I have seen plenty of it in the American trade.

6472. But we have nothing to do with the American trade except as throwing light upon the Channel trade; it is the Channel trade I am speaking of?—I do not think I have in the Channel trade.

6473. You say that it is absolutely necessary for the safety and comfort of the cattle that they should not be loaded in an over-driven or tired state, and that they

should be unloaded as soon as possible after arrival. What is the state of facts as to the unloading after arrival?—As a rule they unload them right away.

6474. In Liverpool—we are talking of the Channel boats?—Do you mean in Liverpool?

6475. Yes?—In Liverpool, as a rule, they come to the landing stage and unload. If they can get into dock they go there.

6476. Is there unnecessary delay in Liverpool?—Yes; I have seen it.

6477. Can you give instances?—There was the case of the "Mayo" this winter. That is why I put that in my proof.

6478. We will come to that afterwards. But when the weather has been ordinary, in the ordinary state of the traffic, what do they do?—It would be only when waiting to go into dock; they might wait an hour or two.

6479. Not more than an hour or two?—Quite so.

6480. Except in the case of the "Mayo"?—Except in the case of the "Mayo."

6481. Then you are against vessels carrying cattle sailing in the face of very bad weather. Have you reason to believe that there is any particular recklessness in that respect with regard to steamers carrying cattle?—I think that they go to sea whatever the weather is; and there have been losses through their going in bad weather.

6482. What do you refer to; have you any particulars there as to the losses?—I was referring to the case of one of Laird's boats, called the "Shamrock," that I investigated.

6483. We will go back to the "Shamrock." But have you any other instances in your mind?—No, I have not, except what I have heard.

6484. Of course in vessels carrying passengers there is a great effort made to keep regular and punctual service?—Yes.

6485. And I suppose those vessels which carry passengers are by no means the worst ships in the trade, are they?—Not the worst.

6486. I mean that the accommodation for carrying cattle on those passenger vessels is not worse than the pure cattle ships?—Just the same; there is no difference.

6487. You make the suggestion that the captain be held responsible for any cruelty that may occur on board the steamer?—Yes.

6488. Have you any facts that illustrate the necessity of that recommendation?—Except that there is no responsibility placed on anyone for it, and in the Atlantic trade the captain is now responsible.

6489. In the Atlantic trade are you aware of any instance in which that responsibility has been brought home, and in which the captain has been punished?—Several. We have had, I think, a dozen prosecutions.

6490. At whose instance?—At the instance of the Government Veterinary Inspector.

6491. Could you let us have one or two cases in detail?—I do not remember the names of the boats.

6492. Never mind the names?—There was one of Richard Mills Co.'s captains got fined.

6493. Under what circumstances?—For not killing a bullock with a broken leg, or something like that.

6494. Are all the cases that you refer to constituted through the not killing of some animals? In that case the animal was so injured as to be a proper subject for slaughter?—Yes. I think one case was from acts of cruelty—driving cattle over a bullock that was down when they were discharging. I think that was a case of one of Johnson's captains.

6495. And the captain was held responsible?—Yes.

6496. Was any attempt made to bring the matter home to the drover?—No.

6497. Do you think that there is much cruelty in loading and discharging cattle for which the captain might be made amenable, if such a regulation as you propose were in force?—Yes. I know one very flagrant case like that. I think in that particular instance his attention was called to it by the policeman.

6498. Were there any other forms of cruelty which you could recollect which have been made the subject

of discussion in the American trade?—No. The only instances I remember were where the animal had broken legs or something like that, and was not killed.

6499. You represent the owners of the "Blackrock" in reference to the loss occurred through her?—Yes.

6500. And you were present during a portion of her discharge? Have you any points that you wish to bring under the notice of the Committee in connexion with that case?—No. It was a very bad loss—the steering gear went wrong.

6501. We have heard of that?—And it was a very heavy loss. There was one thing I should like to mention, I do not think the cattle were properly handled.

6502. When?—When they arrived.

6503. In what way?—In the first place there were a great many that were not killed that should have been killed in my opinion; others were killed by anybody and in any way; there were no butchers and no appliances; there was no pole-axe there.

6504. They were killed in harbour, were they?—Yes.

6505. How do you propose to meet that? Is it by having some competent men who might slaughter any disabled animal? You could not provide for cases of that sort in that way?—In that case they could have arranged easily enough if they had gone the right way about it. It took hours to land.

6506. What you suggest in such cases is that the captain should send for slaughtermen?—Yes.

6507. And get them done up properly?—Yes.

6508. In connection with the "Mayo" what do you say?—Well, the principal point about the "Mayo" was that they left these cattle on the ship a great deal too long after she arrived.

6509. They should have been slaughtered?—They should have been slaughtered.

6510. And those cattle were left on board the ship without any food or any means of watering them?—There was nothing on the ship.

6511. How long had they been on board?—I could not tell exactly. I believe she came in at 1 o'clock in the afternoon and was not discharged until 9 o'clock the next morning, and then the cattle were lying about on the stage for a long time afterwards.

6512. That was made the subject of a prosecution?—Yes.

6513. And the prosecution failed, did it not?—It failed, because the responsibility could not be fixed upon anyone.

6514. Was the "Blackrock" subject to any legal proceedings?—No.

6515. Now will you mention the case of the "Shamrock." What have you to say about it. It was a case you said in which the vessel proceeded to sea when she should not have done?—That is what I understood at the time, and another thing, the vessel was light; they rectified that afterwards and put more ballast in. Some cattle were thrown down in the 'tween decks, and obstructing the scuppers caused some to be drowned.

6516. How many cattle were lost?—About 50 were lost.

6517. When was that?—This was a little over two years ago.

6518. Have you the date there?—I have the date, I think it was October 1891.

6519. What line did she belong to?—The Laird line from Dublin to Morecambe, that trip.

6520. That was the heaviest loss that you had to deal with in that year?—Yes, that I had.

6521. The loss in that case was almost greater than in the "Blackrock" or the "Mayo." There were 30 cattle drowned in the "Shamrock," how many in the "Blackrock"?—Only some of the 30 lost ex "Shamrock" were drowned; the "Blackrock" was getting on for 150.

6522. And the "Mayo"?—It was only about 40 or 50, I think.

6523. Was the weather on which this loss took place on the "Shamrock" very bad?—It was bad weather.

6524. During that bad weather was there any other serious loss?—Not that I heard of.

6525. (Sir William Kaye.) I understood you are an insurance agent?—I am an insurance surveyor.

6526. And your head-quarters are at Liverpool?—At Liverpool.

6527. You have more to do with the American trade than any other trade?—Yes.

6528. You are not yourselves, or your firm, ship-owners?—No, we act almost entirely for the underwriters, nearly always.

6529. Nor are you carriers in any way?—No.

6530. (Mr. Watson.) You mention that since the report of the Committee in 1890 the American ships make longer passages in bad weather?—Yes.

6531. Do you mean that they go slowly to make better weather of it as the seamen say?—They slow to make better weather.

6532. They are eased down for the comfort of the cattle?—Yes.

6533. As regards these ships that you name, these three special cases of bad weather, do you speak of them from your own knowledge?—Do you mean the American boats?

6534. The "Mayo," the "Shamrock," and the "Blackrock"?—I saw the "Shamrock" and the "Blackrock." I did not see the "Mayo," but saw some of her cattle after they were landed.

6535. Were you present on the occasion of any of these cases?—Of the "Blackrock" only.

6536. (Mr. Booth.) I think the Committee would think it an advantage if you could give a little more detail as to the nature of the fittings that you think from the comparison of the American fittings would be suitable to the Irish trade, as to how the boards are fixed, for instance?—Of course there are stanchions, either wood or iron. Iron is the better, I think, and it is mostly used now. This stanchion is bolted on a hinge to the beam above, and fits into a shoe at the bottom. Then across the stanchions there is a footboard and a head-board.

6537. With regard to the stanchions in the American trade the stanchions are as many as they choose, fitted to a board which meets a hinge which fits into a shoe and it can be put under the deck?—It can be put under the deck, and these division boards they bring them right down on the lower deck, they are hinged at the foot and fall right down on to the deck.

6538. You are speaking of the division boards?—Yes, the division boards.

6539. That is to say, they are foot boards and head boards?—There are foot boards and head boards in front of the cattle, and between every four there are division boards.

6540. We are now speaking of the division boards which are upright?—They are upright.

6541. Are two boards put together in that manner?—Yes.

6542. To divide each four cattle from one another?—No, each four from the next four.

6543. And this is shipped away entirely?—They come away entirely; some are hinged at the foot, and fit down between the cleats.

6544. And they have a system on the American boats which is entirely simple, and can be put up without expense?—Yes.

6545. Is there any other point about the fastening of the boards that you would like to mention?—No, nothing else.

6546. You think that about the same length of 10 feet used in the Atlantic trade would account for five cattle, so that there would be five beasts in a pen as a rule on that principle?—Yes.

6547. Have you anything to say as to the width of the passage-way that would be necessary?—I do not think a wider passage-way than 18 inches is necessary.

6548. What is the width in the Atlantic trade?—Not less than 2 feet 6 inches.

6549. And often more?—Yes, 5 or 6 feet in the centre of the ship.

6550. The arrangement of the pens must largely depend upon the width of the boat, how is that?—That is so.

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6551. Supposing you had three or even four tiers, or whatever it is called, pens in the width, how would you arrange the passage-way then?—I should have two passage-ways.
6552. Narrow passage-ways?—Narrow passage-ways as far as I could have them, and then you would have to take out a tier of cattle when you get to the narrower part of the boat.
6553. But you would practically, as far as possible, have passage-ways to each pen?—As far as practicable.
6554. In the American boats they are 10 feet 6 inches?—No. Usually the height of the 'tween decks is 7 ft. 6 in.
6555. And being a foot or 18 inches in the Irish boats it makes the question of ventilation much more important?—Yes.
6556. Mr. Nelson gave us in his evidence the specific case of the "Olive" of the Laird Line in which he said 26 or 27 beasts were smothered in one hold in fine weather. Have you any special knowledge with regard to the Laird Line?—I have seen them all but the "Olive."
6557. What may you say as to the ventilation generally of that line?—It compares very favourably with the other Channel boats, and when I saw them two of them had some new ventilation, compressed air. Their other boats that have just got the ordinary air driven by fans, but two of them, the "Shamrock" and the "Ivy," had compressed air.
6558. This case of the "Olive"—it was suffocation in fine weather in the case of a following wind; is there any ventilation on the Laird boats that would cause you to be surprised to find a hold full of cattle being partially smothered in fine weather or does it seem to you that it might happen?—I think they could all be very much better ventilated.
6559. In a following wind do you think that the ordinary cowl ventilation would be sufficient?—I do not know; I think it might be doubtful then with the very small cowls that they use now on those Irish boats.
6560. Could you say anything with regard to any special cases in your experience of Irish boats where there certainly is not sufficient ventilation in any particular boats or holds?—Two boats, the "Duke of Leinster" and the "Duke of Argyll," in the after hold there is no ventilation; they belong to the Dublin and Glasgow Steamship Company.
6561. On the after 'tween decks—They only carry in one deck aft, they carry on three decks forward.
6562. In these two boats, in the after 'tween decks, what is the state of the ventilation?—There is the hatch which is pretty well forward, and then on either side there is one of those watercloset pipe ventilators like an "S".
6563. About what diameter is it?—Very small, two or three inches, a very small thing.
6564. And that is the only ventilation except the hatch to these holds?—That is all.
6565. Would you consider under any reading of the ventilation regulation that such ventilation should be considered sufficient?—I do not think you could possibly think it sufficient.
6566. And yet it is presumed that those holds have been passed by the inspector?—Well, they load the cattle there.
6567. At any rate they are loaded with cattle. Could you say anything with your knowledge of those boats—the Scotch boats to Glasgow—as to the matter of tying, whether they are tied or not?—I saw several boats loaded; none of them were tied. I crossed on one and only one animal was tied.
6568. Would you say anything about the pens on those boats, whether each of the holds is properly divided into pens?—Those two dual boats the "Duke of Leinster" and the "Duke of Argyll," are not properly divided in the lower hold forward; or they were not.
6569. Are there larger spaces in that lower hold than 15 by 9, which is the ordinary space?—Yes, to the best of my recollection.
6570. And the cattle are shipped in bulk down there?—They are shipped all in bulk.
6571. And stand as they can?—Yes.

6572. With regard to the tying, one of the chief objects of tying is, apart from hurting one another with their horns, to keep the animal standing across the battens so as to get a proper foothold?—Yes.
6573. Do you agree that that is an essential thing in keeping the beast on their feet?—Yes, the beasts cannot stand fore and aft.
6574. Supposing the beasts stand fore and aft in a pen in any way when there is a rolling motion on the vessel what occurs?—They cannot stand it. We had a boat with some pens built fore and aft, and they had to change the cattle every 24 hours on account of the knocking about they received.
6575. When the beast is standing lengthwise of the vessel and the boat rolls he must necessarily go over?—Yes.
6576. Practically, are the beasts prevented from falling in these Glasgow boats when they are not tied?—There is nothing, there is no arrangement except the pen, and they are driven in and stand any way, heads and tails.
6577. And it is, in fact, from their being packed as tight as possible that they stand?—Yes, that is the only way.
6578. What kind of tight packing is there in these boats?—My recollection of it at Dublin as I saw it particularly, I noticed it for about a week, they simply drive the beasts into the pens and fill them up.
6579. As many as they can hold?—Yes.
6580. So as to keep them in a solid mass?—Yes.
6581. Then with regard to the attendants that you spoke of; as to the Atlantic regulation, it is part of the American order, and it is also part of the English order now, I believe, the number of men they have as attendants upon the cattle is fixed?—Yes.
6582. And the ship is not allowed to clear until she has the requisite number of attendants, until that order is complied with?—That is so.
6583. You were speaking of your experience of loss in the Channel trade in comparison with the American—your experience you said was gained in acting for the underwriters?—Yes. I was acting for the ship owners in the "Blackrock."
6584. This is the point I wish to get at; the reason you have less experience of the loss in the Irish trade, is that very small numbers of cattle are insured in the insurance companies or underwriters?—That is so.
6585. Whereas in the Atlantic it is all the other way?—They are all insured more or less.
6586. So that the underwriters do not come in contact with the damage in the Irish trade except quite occasionally?—That is so.
6587. But when you were acting for the Ulster Marine Insurance Company, you were acting for them with reference to the Irish transit?—Yes, the Irish cattle.
6588. And you made a special inspection at that time of the Irish cattle transit for the Ulster Marine Company?—Yes.
6589. Then have you any views in regard to the ventilation as between the lower hold and the 'tween deck?—If you carry cattle in the lower hold, it should be independently ventilated.
6590. By which you mean —?—It should go right up to the upper deck, the pipes that go into the lower hold should be direct from cowls on top.
6591. Independently of the ventilation of the 'tween decks?—Yes.
6592. So that the heat and bad air from the lower hold cannot go into the 'tween decks, is that the idea?—Yes, of course some of it will go—there are hatches, you cannot avoid that.
6593. You are speaking of hatches; can you tell us whether in the screw boats it may be often that the hatches have to be closed. I speak of screw boats because they naturally roll more than the paddle boats as to shipping water?—Yes.
6594. Can you say whether in the screw boats the hatches would naturally be closed?—I don't think that they close them; it is very exceptional to close the hatches.
6595. But it might occur?—It might occur.
6596. We are told by the witnesses on the paddle boats that it almost never happens that the hatches

have to be closed?—I have never found them closed in my experience of the trade.

6597. Which trade?—Whenever I have had anything to do with this trade I have never heard of the hatches being closed.

6598. Even on screw boats?—Even on screw boats.

6599. With regard to those cowl ventilators, you say where this cowl ventilator is the down casts and up takes ought to be placed in the hold or in the 'tween decks?—Each end of the hold.

6600. They ought to be at the extreme forward end and the extreme after end?—Yes.

6601. There ought to be no dead place where ventilation has not reached?—They should not keep any cattle forward or abaft the ventilation.

6602. Then you say that you think the first necessity of all is that cattle should be in a good condition for shipment?—Yes.

6603. And if cattle were exhausted, or in a partially exhausted condition, it is useless to expect the safe carriage of cattle by sea?—Yes.

6604. And one of those most important points is that they shall be tied so as to have proper footholds from the battens and be kept up?—Yes, and use the head rope as well.

6605. Of course; but granted those two things, and proper attendants under responsible control on board the boat, with good ventilation, there ought to be no difficulty in carrying cattle without this damage which we have heard so much of across the Channel?—I think so; they ought to come all right.

6606. With regard to the size of the boats, apart from the business of arranging the pens you have not anything to say as to the size of some of the boats in the Irish cattle transit trade?—Nothing further than that they are very small.

6607. They are very small, do you mean on an average?—Several of them.

6608. Do you think there are certain boats in that trade that ought not to be in it?—I would not go that length.

6609. You think there may be, and probably are, some small boats that are not desirable for carrying cattle?—I think some are too small.

6610. (Mr. Cullen.) Have you any experience of the dishorned cattle coming safer than horned cattle on the Atlantic steamers?—Yes, they are nearly all dishorned now.

6611. Do you approve of dishorning?—I do not know anything about the act; whether there is any cruelty in doing it; but I approve of their being dishorned.

6612. That is generally the case. With regard to the construction of the ships, there are some ships that have all their cattle between the two ventilators, that is, in the middle of the ship, having a perfect current of air, and the boilers and machinery being behind. Do you approve of that construction rather than the present with the boilers between them?—I think that it is immaterial either way. They could be ventilated either way, if they went about it properly.

6613. You think even with the boilers between them could be as effectually ventilated in screw steamers?—I would not say that because it makes it into two smaller spaces instead of one large space.

6614. And the larger space you would approve of?—It is more easily ventilated.

6615. In the Channel steamers you think 18 inches would be quite sufficient for the passage at the heads?—Yes, I think so.

6616. And you are totally opposed to the view of having the cattle tied fore and aft?—Yes, strongly.

6617. You think that the attendants ought to be competent attendants?—Yes.

6618. Under the direction of a foreman, and the captain should be made responsible?—Yes, I think so.

6619. You have no experience of blindness from ammonia have you?—No, I have not.

6620. On the Atlantic or any other trade?—None.

6621. There are no breakwaters usually in the Channel service?—Yes, plenty.

6622. Are there?—Yes.

6623. And you suggest those?—I suggest them always, if possible.

6624. Most of the cattle are landed in Liverpool, at the landing stage. Is there any more direct way of landing them than that. Is there any improvement there that you could suggest?—No, I do not think so.

6625. It is on a level with the steamer, and that is about the best way?—Yes.

6626. About those vessels on the ducal line, the "Duke of Argyll," and the "Duke of Leinster," I understand you to say that the cattle are practically loaded in bulk, driven in altogether in the one pen?—That is as I found them in the forward end of the lower forward 'tween decks.

6627. And that the regulations and rules of the Privy Council have not been carried out in dividing those ships into pens 16 feet long?—Not in one hold; I am only speaking of one hold, the lower hold forward.

6628. And then the cattle that are packed altogether, they have got no means of support except against one another?—That is so.

6629. And then when the vessel rolls, they are seriously injured?—Yes.

6630. (Mr. Field.) I understand from the reply that you gave to a question that you were of opinion that no responsibility is attached now to anyone in connexion with the cross-Channel traffic. There is no responsibility on the captain or anyone in command?—I do not think there is.

6631. That is your experience and it is your deliberate opinion?—Yes.

6632. You stated, I think, that there is a responsibility attached to those in command over the oceanic transit?—Yes.

6633. Is it your opinion that the want of such a responsibility in the cross-Channel transit has a good deal to do with the unsatisfactory condition of that transit?—I do not think largely so, but perhaps to some extent.

6634. There was a good deal of evidence given here about certain cases with respect to the landing of animals from the "Blackrock." I happen to know something about it. Now, if those cases had occurred on an American vessel would those cattle have been all killed immediately?—No; they could not have got at them on account of being piled one on another.

6635. Would there have been an attempt made to deal with them in a more satisfactory way than occurred in Liverpool?—Yes; there is no comparison between the two.

6636. Would those cattle have been killed by competent butchers?—They would.

6637. Would means have been taken to have had it more expeditiously done?—Yes.

6638. This was not done in the case that you referred to, the "Blackrock"?—In the case of the "Blackrock" the discharge was fairly expeditious, but I do not think the animals were treated rightly.

6639. In the "Mayo" discharge was not expeditious?—No, I believe not.

6640. Were you on the "Mayo" at the time that that occurred?—I was not on the "Mayo."

6641. Were you in Liverpool at the time?—I was.

6642. Could you give an idea as to how long the cattle remained in that state without an attempt being made to disembark them?—I think she came along side the stage about 1 o'clock in the afternoon, afterwards went into dock and next morning returned to the stage landing about 9 o'clock. I saw about 30 cattle which had been landed from her about then.

6643. At 9 o'clock?—Yes, on Sunday morning.

6644. After being in from 1 o'clock?—Yes.

6645. Do you think that that could be remedied with proper arrangements?—I think so.

6646. With regard to the "Shamrock." I think you said that the "Shamrock" was light. Have you sufficient experience with regard to vessels to suggest that water ballast could be used with great advantage in the majority of these Irish cross-Channel steamers?—That is a plan I would not like to speak of.

6647. You say a certain number of cattle were drowned on the "Shamrock"?—Yes.

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Mr. G. J. Noakes. 6648. That is a very exceptional circumstance?—Yes, she had a heavy list.

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6650. You give that as your deliberate opinion?—I give it as my opinion.

6651. Would you confirm the evidence given here to the effect that no improvement could be made in the carrying of cattle from Ireland to England and Scotland?—No, I think considerable improvement could be made.

6652. Your opinion is that, as it is carried on at present, considerable improvements could be made?—Yes.

6653. Would you recommend an improvement in the general fitting of the steamers that carry the live-stock from Ireland to England and Scotland by something like the same kind as the oceanic vessels?—Yes, I would, in a modified form.

6654. A modified form because we do not want to go into the extraordinary fittings that you want for a longer voyage. Is it your opinion, broadly speaking, that the condition of the live stock that comes from America and Canada is better than what comes from Ireland to England and Scotland?—Yes, it is the general opinion of people in our trade.

6655. Is that your experience, because we have had a good deal of contention on that point, leaving out, of course, the exceptional circumstances such as the "Blackrock," the "Mayo," and the "Shamrock" and the "Olive." Is it your general opinion in the normal condition of the trade, that it is better in the ships which come across the ocean than cross Channel?—Much.

6656. How would you be able to account for that difference?—In the handling of the cattle, in the state that they are shipped in, and in the ventilation.

6657. Do you think that cattle ought to be tied?—I do.

6658. You think that we ought to have a bullock man to a certain number of cattle?—I think that they ought to have a sufficient number of men.

6659. And sufficient pen accommodation?—Undoubtedly.

6660. Those three conditions apply to a few hundred miles which are now applied to thousands of miles?—Yes.

6661. Do you believe that an insurance rate would insure a better treatment of cattle and safer transit of the live stock? Have you ever studied that question?—Well, the trade would be more looked into and looked after.

6662. Is it your belief that in consequence of the cattle being generally insured crossing the ocean, they are better looked after than in crossing the Channel because they are not insured there?—I think so, it brings in another interested party.

6663. Do you consider the manner in which this trade is carried on could be considerably improved or modified in the arrangements?—Yes.

6664. And I take it that your evidence is complete and conclusive on that point so far as your experience goes?—Yes.

6665. (*Mr. Walker.*) Can you say at what rate you insure the Irish cattle?—No; I have nothing to do with the insurance rate.

6666. (*Mr. Watson.*) You are an agent for the Ulster Marine Co.?—I am the surveyor.

6667. You are not an agent, and you do not insure?—I do not do any insurance.

6668. (*Mr. Parker Smith.*) Is your experience limited to the Mersey, or do you speak for other rivers also?—I have been to Dublin, and Glasgow, and Morecambe.

6669. Have you seen the Clyde boats?—I have seen all the Laird boats, and the Dublin and Glasgow boats.

6670. Then your statements are to be taken as covering the Clyde boats as well as Mersey boats?—Yes.

6671. You spoke of heavy weather, and that it was inadvisable to send the beasts across in heavy weather. Would you propose the laying down of any positive

rule to stop that, or would you leave it in the discretion of the captain?—I think it may be pretty well left to the discretion of the captain.

6672. You do not see anyone else except the captain who has power to interfere in the matter?—No.

6673. Your suggestion is that it ought to be in the discretion of the captain, even though it be quite safe for the ship to cross he might leave the beasts behind?—I think so.

6674. Are there many beasts crossing the Channel that are insured with the underwriters?—Comparatively speaking, no.

6675. They are mainly insured by the carrying companies themselves?—When they are insured, yes.

6676. So that you have comparatively little acquaintance in the course of your business with the boats as they arrive?—Not very much in the Irish trade.

6677. But still, do you often have to go and inspect beasts?—Only occasionally.

6678. Have you heard of an insurance policy with a walk-ashore clause?—Yes; I know all about it.

6679. What do you think about it?—I think it is right; it is a matter of rate.

6680. Do you think that it has any tendency to induce captains to keep the beasts alive when they ought to be killed?—I daresay it has if insured by the carrying companies.

6681. Do you think it objectionable on that ground?—No; not if the captain is made responsible for anything that does happen.

6682. Do you think if the captain is made fully responsible it would not have a tendency to leave beasts alive too long?—I do not think it would.

6683. But you see a danger in that?—Yes.

6684. Is it a common thing having that clause?—Yes.

6685. Is it the usual form taken by the underwriters? I believe it is in the Irish trade. I know that it is in the American trade.

6686. We are only concerned with the Channel trade, my questions refer to that?—It is walk-ashore clause that we have to deal with.

6687. Have you got a copy of an ordinary policy there?—No.

6688. Could you let us have one?—I can get you one.

6689. I am referring to the cross-Channel trade?—Yes.

6690. We would like to see one of the Atlantic policies. Could you let us have both, and we might see whether that should go on the notes. Then you spoke of two steamers definitely, those two dual boats?—Yes.

6691. Have you had occasion to inspect them as a matter of business?—Yes.

6692. When?—Some time ago in November 1891.

6693. You have not seen them since November 1891?—No.

6694. You cannot say whether the arrangements have been altered?—No.

6695. You inspected them thoroughly at the time?—I inspected them thoroughly.

6696. (*Major Tennant.*) You mentioned that certain prosecutions had taken place in Liverpool for offences against the regulations, that you said had been instituted by the Government Veterinary Inspectors?—I said I thought so.

6697. Are you aware of the fact that the inspectors would have no power on their own behalf to institute proceedings, they would be carried out by the instructions of the Board of Agriculture?—Yes.

6698. As to the loss that you have mentioned that occurred in the "Blackrock" and "Mayo" were they not of an exceptional character?—The "Blackrock" was certainly, her steering gear broke, and she got into the trough of the sea, and they had no control over her for a certain time, the other was the fittings I believe, because the weather was bad.

6699. But was not the loss on the "Mayo" also of an exceptional character?—Yes, it was exceptionally heavy.

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6700. Exceptionally heavy and owing to the exceptional condition of the weather?—Yes.

6701. It is not typical of the ordinary condition of affairs as regards the Irish trade?—No, it was quite exceptional.

6702. When you mentioned the loss of the "Shamrock," I concluded that you were referring to the loss that I think occurred in 1891, if my memory serves me right?—Yes.

6703. When she ran to Androssan and her cargo shifted and she had a heavy list?—That is the instance I was speaking about.

6704. That is an exceptional matter altogether, that is not typical of what occurs generally to Irish cattle?—No.

6705. You have spoken very favourably of the manner in which cattle are carried in the Atlantic trade, have you not?—Yes.

6706. I have no doubt that it is within your knowledge that, there again I think, they occasionally have had exceptional losses of a very heavy character?—Yes.

6707. Even in recent years?—Yes, but very infrequently.

6708. Then the exceptional losses, either in the Atlantic trade or in the Irish trade, cannot be taken as an ordinary condition under which cattle are carried either from America or from Ireland?—No.

6709. I presume you would not propose to make arrangements to provide against extraordinary or exceptional loss, you do not propose to have such fittings, or insist upon such fittings as would stand in all conditions of weather?—No.

6710. Because, no doubt, it would occur to you that it might be put in the obvious position that the ship would not be as strong as the ship's fittings, because a ship must be lost sometimes?—Quite so.

6711. Then you would not recommend that there should be such a condition of fittings as would altogether prevent such losses as occurred, for instance, in the "Blackrock"?—No, the "Blackrock" fittings were all right, I examined the fittings.

6712. Although some did carry away, still they were reasonably strong for ordinary practice?—Quite.

6713. As to the point concerning your suggestions for fittings for the Irish trade, you suggest, as I understand, that only four fat beasts should be carried in one pen?—Four or five I said.

6714. We will say five. Will you kindly tell me how would you decide what is, or what is not, a fat beast?—It would be rather an awkward thing to decide.

6715. In the Atlantic trade as a matter of fact, all cattle that come from America, or come from Canada, at the present time are for immediate slaughter upon landing, are they not?—Yes.

6716. And there is no difficulty in that case, because they are all fat cattle?—None.

6717. Now, in the Irish trade as you know, animals do come across with varying ages, from a few months old, up to an old cow of seven or eight years old, in all condition of fatness and all ages. If you propose to legislate in the direction of a limited number of beasts in a pen, how would you propose to carry, that out, what description of beasts are to fall under this limit of five to a pen, where would you begin it, and where end it?—Of course you could not do it in that way.

6718. You could not do it, it would not be practicable?—It would not be practicable. If you come to figures four or five would refer to heavy cattle.

6719. But you cannot define what heavy cattle is?—But we know what it is when we are speaking of it.

6720. To turn to another matter, in two vessels, the "Duke of Argyll" and the "Duke of Leinster," they were two whole weeks practically unprovided with ventilation other than hatches?—Yes.

6721. Do you mean to suggest that in these two vessels, cattle are habitually carried in holds unventilated?—I saw cattle put into them.

6722. On more than one occasion?—I think on two occasions, one I am confident of, I would not be positive as to two.

6723. I do not want to tie you down, but is it your impression that those ships carried in these hold regu-

larly and habitually or whether it was something altogether exceptional?—No, they carried in them habitually.

6724. They are regularly carried there?—Yes, or they were.

6725. Are you aware that under the Order of the Privy Council of Ireland and also under the Board of Agriculture of Great Britain that a shipowner is bound to provide ventilation, that shall be available in all conditions of the weather, and therefore must be apart from the hatch which might have to be closed, and there should be separate inlet and outlet openings?—Yes.

6726. Your contention is that the owners of those vessels have habitually broken the law?—Yes.

6727. (Mr. Watson.) You named certain ships which you thought too small for the trade, and should not be allowed to be employed?—I did not name them.

6728. You mentioned them, can you name them?—Well, if you go through the list you will note their dimensions.

6729. I would like to know the names that you refer to, you must refer to some ships?—I refer to all those little boats. I do not think that they are big enough to carry cattle.

6730. Would you state the minimum tonnage of the vessels?—It is the beam more than the tonnage, for instance, there are some boats of 23 feet beam.

6731. Carrying cattle?—Yes, carrying cattle.

6732. That you know to be carrying cattle?—Yes.

6733. I do not know of any such?—Yes, there is a boat down in your list.

6734. (Chairman.) Mention it?—The "Holly," one of the Laird boats.

6735. (Mr. Field.) That is a Glasgow boat?—Yes.

6736. (Mr. Booth.) With regard to Major Tennant's questions about the exceptional weather, supposing shifting boards and pens were limited to 10 feet only, not all running to 12 and 15 as they do now, would they be more suitable and more capable of resisting the effects of exceptional weather?—Yes, in my opinion they would.

6737. And the Foreign Animal Order of 1893, Regulation B, which states that the fittings shall be of sufficient strength and so adjusted as to withstand the action of the weather, and to resist the weight of the cattle thrown against them, do you think that such boards, not exceeding 10 feet of unsupported length, would be practicable to resist the weight of four or five cattle thrown against them?—Yes, I think so.

6738. And, therefore, it would be desirable to have such a regulation in the Irish transit?—I think so.

6739. That is Regulation B. under the Amended Foreign Animals Order, 1893?—Yes.

6740. (Mr. Watson.) You mentioned in reply to Major Tennant, the damage to the "Blackrock" owing to the steering gear breaking down, and you mentioned the case of the "Mayo's" shifting boards?—Yes.

6741. Can you tell me how many shifting boards gave way?—No, I was not on that vessel.

6742. Did you see them?—No.

6743. (Mr. Field.) One question about this contention as to the walk-ashore clause. When you gave the opinion about the walk-ashore clause, that you consider it a good clause, did you do it from an insurance point of view, you being to a certain extent identified with the insurance companies?—From the practical point of view too; you must bring the risk to an end in some way.

6744. But still you are of opinion that the responsibility should be placed upon the captain as to when he should end the sufferings of an animal?—That is done in the American trade.

6745. And not in the cross-Channel trade?—No.

6746. That is where the point comes in exactly; has it been your experience that this walk-ashore clause has been used to such an extent as to become a contracting-out of all liability clause?—Not at all.

6747. Did you know of a case of an animal under the walk-ashore clause that died immediately afterwards?—Yes, but not in the Irish trade.

6748. You have seen it in the American trade, and what happened there might happen in our trade?—Yes.

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6749. (*Chairman.*) One point that I did not ask any question about is, as to whether you had any views on the subject of the fittings for carrying sheep and pigs. I want to know whether you wish to add anything to what you have said, specially referring to sheep and pigs?—No, I have nothing to add.

6750. You mentioned the cases of the "Duke of Leinster" and the "Duke of Argyle;" have you had any claims made upon companies with which you are

The witness withdraw.

Mr.
R. Cantrell.

Mr. ROBERT CANTRELL called and examined.

6753. (*Chairman.*) You have been Chief Clerk of the Veterinary Department of the Irish Privy Council since 1878, have you not?—Since 1878.

6754. Please state what the staff of your Department consists of?—Besides the clerical staff there is a chief inspector, two permanent travelling inspectors, 27 veterinary portal inspectors, and 41 ship inspectors; four of the senior veterinary inspectors are employed as supervisors at the principal ports, that is, Dublin, Belfast, Cork and Waterford.

6755. What is the cost of this port inspection?—It costs the Government slightly over 8,000*l.* a year.

6756. Will you inform the Committee of the object of your Department. Your Department is in complete harmony with the English Department in connection with certain matters, is it not?—Yes.

6757. Will you particularise them?—The Orders that are made by the Board of Agriculture are generally followed by similar Orders for Ireland. Orders, for instance, referring to the importation of animals, and all matters relating to diseases. We generally, as far as possible, have Orders on the same lines.

6758. Then you co-operate with them also in connection with the regulations for the transit of cattle?—Yes, we have practically the same regulations so far as regards the cross-Channel transit.

6759. You have periodical inspection of vessels by the Board of Trade surveyors. They act on behalf of the Privy Council as well as the Board of Trade?—Yes, they are appointed inspectors under the Contagious Diseases (Animals) Act, 1878, by the Lord Lieutenant. They have got warrants of appointment as inspectors for the purpose of inspecting the vessels, and seeing that the requirements as to transit are complied with. Every ship that is engaged in cross-Channel traffic has a certificate and is periodically surveyed, generally once a year, and sometimes oftener.

6760. You say that the duty of the veterinary inspector is the detention of such animals as are disabled or unfit for inspection, in what way do mean?—Well, if the animal is in such a condition that the veterinary inspector is not satisfied that he can make a proper inspection for disease; if it is in a dirty state, heated or overdriven, or in such a way that the respiratory organs cannot be examined properly, that would be a condition unfit for inspection.

6761. Your inspectors supervise the loading of cattle?—The ship inspectors do.

6762. And you have two travelling inspectors constantly engaged in visiting?—Yes, visiting ports, railway stations, markets and fairs.

6763. We have heard a good deal about the fairs; do you happen to have any reports concerning the treatment of animals at the fairs?—There have been reports occasionally from the constabulary as to the treatment at fairs, as to the beating of animals.

6764. What are the functions of your own travelling inspectors; you speak of them in connexion with the constabulary, how is that?—Because the constabulary were also instructed to attend fairs in order to prevent ill-treatment and cruelty as much as possible.

6765. In fact, the constabulary co-operate with your inspectors at the fairs, railway stations, and ports?—Yes, it is a portion of their ordinary duty under the Act to do so, and they were specially directed to co-operate by the Inspector-General of Constabulary.

6766. And your Department also has charge of the constant inspection of lairs at railway stations and at ports?—Yes, the veterinary inspectors undertake that.

connected for cattle injured by insufficient ventilation in these vessels?—No, I never remember a case.

6751. How did you come to survey them?—I was surveying them under instructions for the Ulster Marine Insurance Company of Belfast.

6752. Do not any of the dealers go to the insurance companies that you represent and cover injury to the cattle, apart from vital injuries to them?—No, they are total loss only, or walk-ashore clause.

6767. The local authorities have full power in the matter?—Yes; the local authorities have full power to appoint any inspectors that may be necessary. In some instance I believe they have done so; that is for the special purpose of preventing cruelty at fairs.

6768. And the fact that you have a certain charge over these matters does not relieve them from the exercise of their powers?—It does not relieve them in any way from the responsibility of their own particular district. We specially informed them by circular to that effect when our travelling inspectors were appointed.

6769. Do the inspectors that you mention report any breach of the regulations at the ports?—Yes.

6770. And the Department takes such steps as they consider may be required. Is it your experience that when you communicate with the company, or individual, respecting any neglect of your requirements, have you generally got compliance?—Yes, as a general rule both railway companies and the shipping companies are very willing to comply and remedy any defects that have been pointed out and to remedy them.

6771. When they will not comply you prosecute them?—Yes, in any serious cases of neglect there have been prosecutions.

6772. Your experience has been that the carrying companies are very willing to comply with your suggestions?—Most of them.

6773. You consider that a number of improvements have been effected for the past 10 years at railway stations and ports and vessels in the flooring, water supply, pens, lairage accommodation, pen fittings, battens, &c., and above all in the cleanliness of the places used for animals; and very large sums of money have been expended by these companies or other persons interested through the action of your Department?—Most certainly vast improvements have taken place in the construction of loading places at the railway stations, and in lairage accommodation, in laying down proper floorings, and the provision of an adequate water supply for the animals to drink at railway stations, and again at all the inspection places at the ports; there is a most ample supply in Dublin.

6774. And you call attention to the necessity for the prevention of cruelty, and that you have sent out special instructions to the police authorities?—Yes, on several different occasions circulars have been sent out.

6775. Do you think that those circulars have been effective?—I am sure the police take sufficient action upon them, and I am aware that from time to time they have prosecuted people for cruelty at fairs and other places.

6776. You say that prosecutions have taken place for the infringement of the Order in Council since 1883, and you say you can give a number of cases in which it occurred; will you please do so?—Yes, of course I do not mean to say in any way an exhaustive list; the cases were hurriedly taken from a large mass of papers that have been gone through.

6777. You wish to say there are points in which your interference has been practical and necessary, and have had a good effect?—Quite so; we have had drovers prosecuted and fined for attempting to ship cattle that were not inspected or licensed.

6778. Will you explain that?—Before any Irish animals are exported they have to be licensed by one of our officers, by our veterinary inspector at the port; after inspection and before shipment, every animal has to be branded to show that it has been inspected.

6779. Then those are rather offences against inspection?—Quite so. We have also had shipping companies prosecuted and fined on several occasions for stowing cattle in the lower holds of vessels which were unprovided with proper pens.

6780. You say that such prosecutions have occurred on several occasions?—On more than one occasion; two or three occasions I can recollect.

6781. Which is the most recent?—I think there is one just pending at the present time.

6782. I ask that because the last witness stated that on the vessels between Dublin and Glasgow, the "Duke of Argyll," the "Duke of Leinster," it was the practice in 1891 to stow animals into the hold without putting them into pens?—I have a list which I think will show the date. It is 1890; there were prosecutions for stowing cattle in the lower hold, where they were unprovided with pens, and again in 1891 for the stowing of cattle on the top of hatches and among loose boxes.

6783. With regard to the stowing of cattle in the lower hold unprovided with pens, you said there was some prosecution pending just now or has there been nothing since 1890?—The prosecution that is pending just now is not for the lower holds, but it is for stowing animals in a portion of the ship which had no pens, but not the lower hold; it is practically the same kind of offence.

6784. Have you made a representation to the shipping company before issuing the prosecution in this particular case that is pending?—The matter was referred to the legal adviser, and he advised proceedings.

6785. For stowing cattle on the top of hatches and among loose boxes?—Yes.

6786. And then as to overcrowding; what was the prosecution for overcrowding?—For overcrowding in a ship I have not got a note of a prosecution since 1883; we have had prosecutions for overcrowding in railway trucks since, but not in a ship.

6787. And I suppose you are not in a position to state to the Committee any principles which would guide you in the matter for preventing overcrowding?—No, I cannot say actually what the particulars of that case were now.

6788. You mention here among other matters in the history of the prosecutions the shipment of a cow found to be affected with pleuro-pneumonia; that case has nothing to do with overcrowding?—It shows the advantage of a portal inspection.

6789. The next case is cruelty to sheep in shipment; when would that be?—That was in 1892.

6790. Do you know what the cruelty consisted of?—I have not the particulars noted.

6791. Against whom was the prosecution?—Against two dealers.

6792. Against dealers?—I think they were dealers; the cases were not against carrying companies.

6793. Then as to the lairs, that hardly concerns us; but the next case that you mention is a fine imposed for shipping an animal in an unfit state, and not rendering it fit by rest and food. When was that?—That was a good while ago; in 1884, that took place in Limerick. The man refused, as well as I can remember, to have the animal detained, and drove it on board the ship, and it was subsequently removed from the ship again.

6794. We have been told in a very large number of instances at Dublin, for example, that cattle are not fed when they have come from very considerable distances in the country; do your officers pronounce as to whether the animal is in an apparent state of starvation and tiredness that requires rest and food before shipment or not; is that part of their duty?—I do not think that they go into that point.

6795. Then we have shippers fined for cruelty to animals in pens. When was that cruelty?—There are different cases of that kind; the last was in 1890.

6796. Then we have fines imposed for presenting pigs for shipment with bored ears. What is the meaning of that?—When was that prosecution?—That was in Wexford in 1890. I think that was brought under the Prevention of Cruelty to Animals Act.

6797. What was the idea in presenting the animal with bored ears?—I do not know why the owner did it, but the ears were reported to be in a shocking condition.

6798. It was a barbarous branding?—It was cruelty.

6799. You have also prosecuted railway companies, and those prosecutions you say have taken place relative to the transit of cattle in Dublin, Belfast, Cork, Dundrum, Limerick, Londonderry, Sligo, and Wexford?—Yes.

6800. And prosecutions have also been instituted against railway companies, but for the most part when defects were pointed out, the carrying companies, both by water and land, were willing to remedy them?—They were, as a general rule, willing to remedy them.

6801. Have you had also improvement in the fittings of shipping vessels owing to your representations?—Yes, in a large number of cases.

6802. Or perhaps that question would be better answered by your assertion that you have received communications from the secretary of the Irish Steamship Association which you might read to the Committee?—Yes, this communication was in answer to a circular letter which we addressed to all the shipping companies in Ireland in 1885, bringing under their notice various representations that had been made in regard to the transit of animals. It was one of the first circulars issued. The Steamship Association stated, "that no cruelty was shown towards the live stock carried in their vessels; that the vessels were of the very best description and fitted up in every way in a manner suitable for the humane and safe transit of animals, and in strict accordance with Orders in Council as contained in Chapter 21, Articles 77-80 of the Animals (Ireland) Orders. Although the animals were shipped in all weathers, the amount of loss incurred when compared with the vast number of animals carried was most trifling. Free passes were universally given to the owner's men in charge of live stock, and in most cases the owners elect to ship the cattle at their own risk." And then they further stated: "That many years experience of the cattle trade had satisfied the companies that the present system of providing pens of a limited size on board the vessels best answers the requirements of the trade enabling, as it does, proper accommodation to be found for the cattle, no matter what the size of the individual beasts might be, and preventing too many being carried in one place, but to provide a separate division for each animal"—that was in answer to a specific recommendation made at the time that every animal should have a separate division—"would not only be attended with so much difficulty and inconvenience as to be practically impossible, but even if it could be carried out, would not meet the safety or comfort of the animals nearly as well as the present system. Large beasts would be cramped for room and small ones be so loosely stowed that they would be knocked about and injured in bad weather while in the present system, the pens for beasts being in all cases properly filled, the animals mutually support one another and so prevent injury. In respect of protection almost all parts of the vessel were provided with ample shelter, even the upper decks being covered in to a large extent so that the cattle are but little exposed to the weather. That such shelter is sufficient is amply proved by the desire of owners to have their cattle placed on deck if possible, which would hardly be the case if exposure or injury resulted from it when the holds are perfectly sheltered and ventilated in the most approved manner."

6803. You say that the Liverpool District Association in 1885 admitted that some good had resulted from the attention shown by the Veterinary Department?—Yes, in a communication which we had from them they stated that.

6804. And in 1888 they again admitted their obligations to you?—They again referred to the good result which followed our action.

6805. On the 14th of February 1889 a deputation of English, Irish, and Scotch butchers waited upon the Clerk of the Council and presented a memorial containing general statements as to the injuries in transit, I believed you asked them to make definite suggestions as to the improvement of the regulations, and they did so?—They did so.

6806. Would you give the result of those recommendations?—I have got a summary of all the recommendations that were made.

6807. They submitted suggestions to you and you brought those suggestions to the notice of the shipping

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companies?—Yes, they were all brought under the notice of the shipping companies.

6808. And with what result?—I have here a summary of the replies of the various shipping companies.

6809. Was it with the result of inducing the shipping companies in any instance to adopt any of the suggestions?—In many instances the shipping companies stated that the recommendations were practically in force, in other cases that they would either be impracticable or unnecessary; for instance feeding and watering on the voyage was one. One of the recommendations was that all cattle should be tied up with head ropes except calves or stirks, and I find in most of the replies they say that the necessary appliances are provided. There was also a recommendation that the hatchways between decks and lower holds should be of a certain height and breadth. In several cases the shipping companies replied that they did not carry cattle in the lower holds at all, and in the others that the hatchways, and the heights of the 'tween decks were quite sufficient to admit the fat cattle without injury, that they were not aware of any instance to the contrary. Then each company gave us a long account of the means adopted by them to ventilate their hips.

6810. Then are you aware whether any practical result issued from this correspondence?—The practical result was that more attention was specifically directed to those matters and that every possible care was taken to carry out the existing regulations and our officers saw that they were carried out.

6811. In 1889 Major Tennant's report came out?—It was about a couple of months later than the suggestions of the deputation. They were all brought under the notice of the railway and shipping companies.

6812. Have you circulated that report among the shipping and railway companies, and have you had correspondence with them on the subject?—Yes.

6813. On what points?—The various recommendations in Major Tennant's report.

6814. Then, again, in 1889 did you address a special minute to the portal inspection staff impressing upon them the importance of preventing cruelty or overcrowding of animals brought for shipment, and directing them to co-operate with the police and afford them every assistance in cases which prosecutions might be instituted and otherwise?—That was in February 1889.

6815. But you do not seem to have had any prosecutions since then?—No.

6816. Who would undertake the prosecution—you or the constabulary?—Prosecutions for what?

6817. Prosecutions for overcrowding?—That would be undertaken by the Veterinary Department.

6818. As to the cruelty?—That would most likely be undertaken by the constabulary under the Prevention of Cruelty to Animals Act, not under the Contagious Diseases (Animals) Act.

6819. Then you called at the same time the attention of the Inspector-General of the Royal Irish Constabulary to the instructions on the subject given to his force in 1836 and 1887, and especially to the representations made by the several victuallers' associations?—Yes.

6820. That was, I suppose, still more emphatically declared?—It was more emphatically expressed than the previous ones which had been issued.

6821. The Inspector-General in 1889 issued a circular?—He did. He issued a special instruction to the force directing their attention to the treatment of animals at fairs and railway stations, and calling upon them to exercise all possible vigilance in the matter and to prosecute any offenders for cruelty; and, again, he issued a further instruction to the force on the same lines in the year 1891.

6822. And again in 1893?—Yes. We got further representations in September, 1893, and then fresh directions were again issued urging the police to use every possible effort to prevent animals in transit being subjected either to cruelty or ill-treatment.

6823. In March 1893, the question of Irish cattle transit was again brought under your notice?—Yes. I think that was by a parliamentary question.

6824. Yes?—And then the Chief Secretary intimated that the Veterinary Department was quite ready to co-operate with the Board of Agriculture in any further inquiries which were considered necessary with a view to improving the traffic.

6825. And in 1893 you had again issued further instructions to your staff?—Further instructions were sent to the staff again on the subject of the prevention of overcrowding, and at the same time further instructions were given to the Inspector-General and to the Dublin Metropolitan Police.

6826. And you maintain that this action on your part has been followed with very satisfactory results?—I believe it has been followed with satisfactory results. The presence of the police is a preventive to ill-treatment.

6827. (Mr. Parker Smith.) Are you satisfied with the powers that you have with regard to inspection and to pressing improvements on the shipping companies and the railways?—Yes, I think the powers are sufficient.

6828. Do you think you have got sufficient power?—I think so.

6829. In all respects; and do you find the railways and the shipping companies and other persons concerned willing to receive your suggestions?—Yes, quite willing.

6830. (Mr. Field.) You say you have 41 ship inspectors. May I ask what are the duties of those ship inspectors?—First they see whether vessels are properly cleansed and disinfected; then they supervise the shipment and loading of the cattle, and they have instructions to see that the cattle are not overcrowded and to generally prevent any injury; and then they report to the Department as regards every sailing that takes place.

6831. I understand that those ship inspectors begin and end their duty at the port of embarkation so far as you are concerned?—Certainly.

6832. I think you said that there were certain improvements inaugurated by the shipping companies in respect of the fittings of the ship during the period that has elapsed since you came into office. How would you account for the complaints that are constantly being handed in about those improvements taking place—how could you reconcile the two statements?—Improvements have taken place; when reports were made as to defects in fittings or nonconformity with the regulations, correspondence ensued with the shipping companies and the improvements have taken place and the fittings have been made in accordance with the Order in Council.

6833. Am I to take it at your opinion that those improvements have been sufficient and are satisfactory?—They meet the requirements of our Order in Council.

6834. Do you think that the Orders in Council meet the requirement of the trade?—I do not know whether they meet the requirements of the trade, but I think they meet all reasonable requirements.

6835. You stated that there has been a great improvement in the loading at the railway stations all over Ireland, are you aware as a matter of fact that the Cattle Trade Association, of which I happen to be president, have been constantly in communication with the railway companies about the provision of pens, and as a matter of fact at one of the most important stations in Ireland, Mullingar, they are only erecting a loading pen at the present time?—I believe that is so, they are erecting a new one.

6836. Do you know whether there was one there before?—A loading bank.

6837. In Mullingar, one of the cattle stations in Ireland?—Well I cannot just now call the exact circumstance to mind, but I know we have had correspondence with the railway companies about the improvement of this station.

6838. I will not press you upon that question. I understand that your Department have had a good deal to do with interference at fairs in order to prevent the ill-treatment of cattle?—In so far as that the police have done so and whenever our travelling inspectors can attend fairs they do so also.

6839. Has your Department ever interfered on board the vessels in the voyage between Ireland and England, in the same way as you have taken a certain amount of jurisdiction on land?—I do not quite understand you.

6840. Well, I recognise that you have done as much as you could on land in Ireland, but have you any power on the voyage from Ireland to England, to interfere in a similar way?—No, the powers of the Irish Privy Council cease with Ireland as far as transit goes.

6841. So far as the powers of the Privy Council are concerned they are practically *nil* over shipowners when the cattle are once put on board the ship, and the ship leaves the port of Dublin or Belfast or Dundalk or wherever it may be, on the coast of Ireland, and you have no more power over them?—The powers of the Irish Privy Council are limited to Ireland.

6842. This point I want to get at, because it appears that nobody has any power over the shipowner during the voyage between England and Ireland. I do not want your opinion, but I want to know whether your jurisdiction extends over the Channel, or whether it simply goes to the port?—Once the animals are loaded on board the ship and the inspectors certify that the fittings are right, that there is no overcrowding, and the veterinary inspector is satisfied that there are no diseased animals shipped, then our charge ceases; we have nothing more to do with them.

6843. You are a very efficient official of the Veterinary Department, are you aware that the authority which you exercise up to that point is deputed to anybody else as representing you on board, or is there anyone responsible for the interregnum of sea between Ireland and England?—I do not know of any.

6844. You are not aware of any?—No.

6845. I think in 1885 you had a report from your Department about the enforcing of certain rules; that report was issued by your Department to the various carrying companies; what step did you take to put those rules in force, which are good enough if they are enforced, and that practical steps were taken by your Department, you are aware that the Department issued a report in 1885. Have you read that report?—Yes, the reports in answer to the representations made by the Department, I presume you mean.

6846. You received replies from them?—Yes.

6847. Were there any further practical steps, except the same written reply, taken?—Practically more strict attention has been paid on the part of our staff, and we have sent out special circulars to them.

6848. That is all?—That is all; there were no further regulations made.

6849. We are speaking of these extraordinary losses which are looked upon, of course, as not the normal condition of the trade; but are you aware, or has it come to your knowledge in any way directly or indirectly, that outside of these great losses there is an alleged, at least damage and depreciation to live stock generally in transit between Ireland and England, have you heard of it?—I have heard it so stated.

6850. Have you taken any particular steps to prevent that particular damage and depreciation outside the extraordinary losses which are, of course, only exceptional instances?—No further than what I stated in regard to carrying out the existing regulations.

6851. I think amongst the recommendations were, that every animal should be tied by itself, and the shipping companies said this was not practicable?—Every animal should have a separate place.

6852. Have you had an opportunity during the inquiry here of seeing the patent invention of Mr. Rooth, whereby he provides a single pen for every animal?—I have not seen it; I have heard of it.

6853. If such a thing could be provided at a reasonable cost, would it be an advisable thing to adopt?—It would be a useful thing.

6854. I do not want to pledge you to any individual opinion?—If such were practicable it would be a good thing.

6855. If not too expensive?—If not too expensive, and it did not unduly increase the freight.

6856. The Liverpool and District Butchers' Association approached you at various times, and stated that there was a certain improvement manifested in the condition of the cattle during periods some ten or eight or five years ago. Have you heard anything from the Liverpool and District Butchers' Association lately?—I do not think so.

6857. Have they never represented that the cattle are as badly carried as they were before?—Not lately.

6858. Because that evidence has been given here and has been reiterated frequently?—I do not think any letters have been received since 1889; I will not pledge myself as to all the correspondence that has taken place with everybody.

6859. You remember the deputation at which I assisted in 1889 when the Scotchmen came over and some Englishmen with regard to the treatment of cattle on the railways and on ships?—I remember that.

6860. I think you sent a copy of our resolution to the various carrying companies?—Yes.

6861. And, as a rule, those carrying companies denied the allegations, and stated that everything was satisfactory in their opinion, is not that so?—They, for the most part, considered that the existing regulations were sufficient.

6862. So that there could be no improvements in the regulations and the ventilation?—I do not say that there could not be some improvement.

6863. It was satisfactory to them anyhow?—That reasonable requirements were satisfied.

6864. It is a very elastic word that "reasonable requirements," it means everything. In consequence of that important deputation were there any further practical steps taken by you, or could you take any further practical steps beyond the recommendations sent to those carrying companies?—And instructions to our own officers and to the police.

6865. Because these gentlemen came from Scotland and England in order to interview Sir William Kaye and yourself, and they took a great deal of trouble and spent a great deal of money, and they wanted something practically done. Is it your opinion that things remain practically as they were?—The regulations remain the same, but they are much better carried out, I believe.

6866. The regulations are good enough if they are carried out. Is it your belief from your own knowledge, that the regulations have been better carried out since?—I think so.

6867. How would you reconcile the statement that since those communications the regulations have been complied with when we have sitting here a Departmental Committee inquiring into the matter owing to the unsatisfactory condition of affairs, and the mind of Parliament has been exercised about this business too, if those regulations had been carried out?—I suppose no system is absolutely perfect.

6868. You think that there are certain lapses. Major Tennant's report of 1889 I think was sent round to all the principal carrying companies?—I was sent round about the same time as the recommendations of the deputations.

6869. Would you be able to say whether the London and North-Western Company had received one at that time or not?—It must have been sent I should say.

6870. You think it should have been sent?—Certainly the instruction was to have the report sent to every company.

6871. Now the final question is this: whilst those efforts were being made to the constabulary for the prevention of cruelty to animals, you state that they are practically powerless to take similar steps in the cross-Channel transit, because once the beasts leave the port you have no further jurisdiction?—Yes, because all the Orders in Council that are made apply simply to Ireland.

6872. And then the Irish authorities really have no jurisdiction or authority over the shipowners during the transit of the cattle from Dublin here?—Once the vessels leave the port there is no control of any kind.

6873. Do you think that ought to be modified or met in some way; do you think it a good system that a vacuum of authority should occur?—There is no objection I should imagine to inspectors going across occasionally.

6874. Would you as an Irish official counsel that occasionally an inspector should go with those vessels and see how they should be treated in the transit?—I see no objection to it.

6875. (Mr. Cullen.) You spoke of 27 port inspectors, I understood?—Yes.

6876. How do you distinguish those from the 41?—The 27 are veterinary surgeons; the others are either members of the police force or else police pensioners.

6877. But they are different men?—They are different men.

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6878. And those are veterinary surgeons, the port inspectors—the 27?—Yes; their business is to do with disease.

6879. There are two travelling inspectors and four supervisors?—Yes; the four supervisors are included in the 27.

6880. The 41 port inspectors, how are they divided; how many are there in Dublin, for instance?—Eight in Dublin, five in Belfast, three in Cork, three in Waterford, and three in Drogheda, and one or two at each of the other ports just as circumstances may require.

6881. Is that a sufficient staff for Dublin, considering the number of cattle that are exported?—At the slack times of the year it is almost more than sufficient, and then at busy seasons if at any time they are found not sufficient we employ a couple of extra policemen temporarily.

6882. There were 923,448 animals exported in 1892?—Yes.

6883. Is that from Dublin or all Ireland?—It is from Dublin, there were over two millions from all Ireland.

6884. I am only talking about Dublin. We heard of a gentleman that represented I think the Veterinary Department with regard to the shipping of the cattle, and I understood that once they pass them, and examine them, that those port inspectors had to look after them crossing the road until they were shipped?—That is the ship inspectors.

6885. That is the way it stands?—That is the way it stands. The veterinary inspectors usually remain in the inspection yards until all the animals are inspected and certified.

6886. Then that inspection was carried on very efficiently?—Yes.

6887. And you could almost trace any animal after it had been branded in the event of disease practically?—Yes, practically.

6888. What is the duty of those inspectors in Dublin?—To supervise the loading of the cattle.

6889. Is that sufficient for the numbers that are offered there on any one day?—Yes, because the shipments take place at different hours; for instance, some companies ship earlier in the day and others later, so that a man might be engaged with one company's vessel earlier, and go on later in the day to another.

6890. Do you get a report from those gentlemen as to the shipment of every ship?—Yes, every vessel that leaves the port.

6891. I think they examine each ship?—They examine each ship. The report gives details, first the name of the vessel, the date when it arrived in the port, whether it was properly cleansed and disinfected before animals were again put on board, the time of leaving the port, the number of the different classes of animals put on board, and whether each requirement of the Order in Council has been complied with.

6892. Do they go on board after the animals are loaded?—They have special instructions to go on board.

6893. Do they reply to that and say they have done so?—That question is not in this particular report, but our port supervisor reports from time to time as to matters like that.

6894. You think that number sufficient?—We have not heard anything to the contrary. Latterly at the busy season in Dublin for the last two years during the months of October, November, and December, we have appointed a couple of extra men, because there were extra sailings; a new shipping company for one thing has started.

6895. What class of gentlemen are these; are they fully qualified for that duty?—They are either members of the police force on the active list, or else police pensioners. There are some instances in which they are not police pensioners, but men who have had previous experience of cattle.

6896. But they are mainly superannuated police?—The bulk of them are police on the actual strength of the force.

6897. Have you any of the superannuated policemen?—We have a good many pensioners; 19 pensioners, I think, is the number.

6898. Is it your opinion that they are sufficiently responsible persons for that examination?—I should

explain that those pensioners, as a rule, had been employed as sheep inspectors while on the active strength of the police force, and then on their retirement they were continued as sheep inspectors. I know that many of them are most efficient men; they were specially selected and have years of experience.

6899. With regard to the report of fairs, do you receive reports from these different fairs?—We receive reports from our travelling inspectors, but we do not receive reports direct, as a rule, from the constabulary; they would report any case of the kind to their Inspector-General in the first instance.

6900. Have you received any report from the fair of Roscommon in 1893, or from the fair of Roscommon, May 23rd, 1894, as to the conditions under which the cattle were treated there?—I cannot say.

6901. 1894 is only seven or eight days ago?—I have not seen any report; I will not say one has not been received, but I have not seen it.

6902. But none in 1893, last year?—I cannot recollect.

6903. I understood you to say you have had no prosecutions against the steam packets since 1892?—I think 1892 is the last. There is one pending at present.

6904. (Mr. Booth.) With regard to the interpretation put upon the Orders by the Department, of course it is evident that a good deal of difference of opinion must exist according to individual inspectors, but on the matter of overcrowding can you give us any idea as to the instructions given to those ship inspectors as to what overcrowding is. These men must have something to go upon?—It is not specially defined.

6905. It is not specially defined in the Orders, but surely their instructions must be more definite than simply the Order?—There were no more detailed instruction on that particular point.

6906. Then it is left entirely to these men's opinion?—Entirely to their judgment.

6907. And they have been accustomed to the traffic for many years, and naturally consider what is customary is right?—They consider what should be overcrowding and what is not; they are able to form a very good opinion.

6908. Supposing a vessel is filled up in her pens, and as many cattle are put into the pens as they will hold, as is often done, and all the decks are filled without any passage ways, do you consider that overcrowding?—I would not like to give any opinion as to what overcrowding is.

6909. You would not like to give any opinion?—Unless I knew the particular circumstances, and unless I saw the ship loaded.

6910. Then it is left to the individual inspector?—It is left to the discretion of the inspector to decide what overcrowding is.

6911. Have you had any report lately, at any rate, of alleged overcrowding of any of the lines?—We had one the other day.

6912. What did it consist of?—That the animals in a certain part of the ship had been packed too closely together.

6913. Such reports are very rare. Do you remember in which part of the ship it was?—In the 'tween decks I think it was.

6914. No special instructions are given as to what is overcrowding?—No special definition is given as to overcrowding.

6915. In the same way as to ventilation; there are no instructions given to look for a certain special amount or kind of ventilation?—No, the Board of Trade officers certify as to the ventilation.

6916. And do you expect your ship inspectors to report on the ventilation?—Yes, we expect them to report on all the requirements.

6917. Do you consider the Board of Trade is more responsible for the ventilation than you?—No, but their surveyors supply us with very detailed reports on the subject.

6918. In their yearly examinations?—In their periodical examinations, which are often made at less than yearly intervals, and I may add that for a series of years, since 1878, in fact, they have paid very great attention to this matter.

6919. (*Sir William Kaye.*) All cattle before Ireland are inspected by veterinary inspectors, and they are branded and licensed; is that so?—Yes.

6920. And all vessels carrying cattle are certified by the Board of Trade in the first instance?—That is so.

6921. Have you got one of those certificates of the Board of Trade with you. For instance, there has been a good deal of talk about the "Blackrock"; have you got that one here?—I have two or three certificates here; the "Blackrock" is one of them.

6922. What were the particulars given in the case of the "Blackrock," and the dates of them?—We had a certificate of the "Blackrock" on the 20th March 1893, and then she was again surveyed and certified on the 29th March 1894.

6923. Would you just state generally what information the certificate contains?—First it specifies what portions of the ship are appropriated to the carriage of animals. In the "Blackrock," it is the upper, main, and 'tween decks and the fore lower hold.

6924. (*Mr. Field.*) Does that mean four heights of cattle or three?—The upper, main, and 'tween decks, and the fore lower hold; that is four tiers.

6925. (*Sir William Kaye.*) Will you proceed with your description?—Then the number of places used for animals are specified, namely, "110 divided into pens not exceeding, in the case of any one pen, 9 feet in breadth, or 15 feet in length, by proper substantial divisions. The pens intended for bullocks are constructed with their greatest length fore and aft, and not athwart the ship. The floors of the several pens have proper battens, or other footholds, thereon. The ventilation throughout is as required by the Order in Council, and is, in every respect, satisfactory. There are sufficient and safe gangways for the animals; I further certify that the vessel was completely cleansed and disinfected."

6926. (*Chairman.*) You said that the pens for bullocks are fore aft?—The pens intended for bullocks are constructed fore and aft, and not athwart the ship.

6927. (*Sir William Kaye.*) Is it essential to the certificate to show the size of each pen?—Yes, the surveyor gives the measurements of each of those 110 pens; they vary from a length of 2 feet 3 inches to a length of 15 feet, and a breadth of 3 feet 6 inches to 9 feet.

6928. The only rule observed is that they do not exceed the maximum laid down by the Order in Council?—That is so.

6929. Can you give us the dimension of the other pens?—Yes.

6930. In November last the "Blackrock" met with very severe weather and a catastrophe; have you any particulars of how she was loaded on that occasion?—We got a report at the time from our supervisor on the subject, and we have a report also from the ship inspector. He says, "I attended the shipment of the 'steamer Blackrock' on the 16th November, and saw 'all the cattle properly penned and head-roped.' This vessel has many times carried greater numbers of 'live stock.'"

6931. She was in no way overloaded?—No; I find that in a report sent in by the supervising officer, he says there were 347 cattle on board that day, and 129 sheep, making a total of 476 animals. Several other times during the year she carried a greater number of cattle; for instance, in September she carried 416; and he says, "This vessel can accommodate 'about 430 large-sized cattle and 800 sheep.'"

6932. That is all about the "Blackrock." We have heard something about the "Duke of Argyll"?—Yes, that is one of the vessels on the Dublin and Glasgow service that has been running for a considerable time.

The witness withdrew.

Mr. JOHN COLAM called and examined.

6948. (*Chairman.*) You are the Secretary of the Royal Society for the Prevention of Cruelty to Animals. We have asked you to give us some evidence as to the law on the subject of cruelty to animals?—Certainly. May I say that I have been Secretary to the Society for 34 years up to yesterday.

6949. Of course you have paid special attention to the law?—Yes.

6933. Is she a duly certified vessel?—Yes.

6934. Have you got a return of the number of cattle which was imported in the last 10 years from Ireland to Glasgow showing the descriptions of cattle?—From Ireland to Glasgow?

6935. Have you got a return showing it?—Yes.

6936. Will you tell us what the effect of it is? What was the total number for last year compared with the preceding year?—In the year 1893 the number of fat cattle exported to Glasgow was 31,904, and the number of stores 108,318, and other cattle 7,400, and calves 16,315, total 163,937.

6937. (*Mr. Parker Smith.*) Is this from Ireland?—From all the Irish ports.

6938. (*Sir William Kaye.*) You have got fat stock; you give the number in 1893. How does it compare with the preceding years?—The fat stock in 1892 was 23,372, that is 8,000 less; in 1891, 22,030; in 1890, 20,253, and then I go back to 1878, the year the Act came into force.

6939. How does the return of last year compare with 1878?—In 1878 there were 16,817 exported, and in 1893 there were 31,904.

6940. About the certificate there; what does the certificate say with respect to ventilation?—On the "Blackrock"?

6941. Yes?—There is a very full description of the ventilation on board all the ships. In the case of the "Blackrock" it says, "The main deck ventilation is afforded to the covered-in portions under the fore-castle by a hatchway 5 feet 7 inches by 8 feet 1 inch, and the space open at the after end; under the hurricane deck by a hatchway 7 feet 6 inches by 11 feet 6 inches; eight side scuttles 8 inches in diameter; four deck gratings 1 foot 3 inches in diameter, and the space is open at the forward end. The four 'tween decks are ventilated by two hatchways, 5 feet 7 inches by 8 feet, and 11 feet 4 inches by 11 feet 5 inches; also the gangway, having an area of entrance 3 feet 4 inches by 7 feet 5 inches, and also induced current ventilation by J. and F. Andrews and Company's improved system, the orifices in the compartment being two at the fore end and two at the after end of the compartment, 1 foot 3 inches by 1 foot 4 inches. The fore lower hold is provided with the same means of ventilation as the 'tween decks above, and the after 'tween decks are ventilated by a hatchway 7 feet 6 inches by 11 feet 5 inches, a gangway with an area of opening 3 feet 4 inches by 7 feet 5 inches and the same amount of induced draught as at the fore compartment."

6942. Who is that certificate sent to?—That is the district surveyor's certificate. First it is sent to the Board's principal officer in Dublin and then it is forwarded by him to the Marine Department of the Board of Trade, and they send it to us.

6943. Have you any papers connected with the "Duke of Argyll"?—No; I do not remember anything about that. The "Duke of Argyll" has an artificial system of ventilation, I think.

6944. It has?—I think so, as well as I remember.

6945. Now as regards prosecutions for cruelty. I believe in the Dublin district there have been only two within the last seven years?—Two are all I remember.

6946. (*Mr. Cullen.*) You spoke of the pens being fore-aft; but I understand still, notwithstanding that, that the cattle were tied athwart the ship as in the usual way?—The cattle, I believe, are generally tied to the bulwarks.

6947. But across the ship?—Yes.

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Act which was passed just one year after the Act for England, viz., the year 1850. It omits several provisions. If you wish me to go into the matter I could mention that there are several clauses which appear in the Act for England and Wales and Ireland, but not in the Scotch Act. For instance, in the Scotch law it is necessary to prove that an offence is a wanton act; in the English law it is unnecessary. Then in the English Act there is a provision for compensation to the owner arising out of an act of cruelty. In the English Act there is a section which has reference specially to the conveyance of animals which is omitted in the Scottish Act.

6951. What is that section?—It is the 12th section of the 12th and 13th Victoria, cap. 92. I had better read the section:—"And be it enacted, that if any person "shall convey or carry, or cause to be conveyed or "carried, in or upon any vehicle any animal in such a "manner or position as to subject such animal to "unnecessary pain or suffering, every such person "shall forfeit and pay a penalty not exceeding three "pounds for the first offence, and a penalty of five "pounds for the second and every subsequent "offence."

6952. That would apply to sea transit, too?—I apprehend so, if you can prove that a ship is a vehicle that is the crux of the section.

6953. But the point has not been raised?—It has not been raised, although we have prosecuted, and the question has certainly not been settled by the judges. We should contend, if it were raised, that a ship is a vehicle. That section is entirely absent from the Scotch Act. There are other sections in our Act which I need not go into which refer to the slaughter of animals in knackers' yards not found in the Scotch Act. There is no other radical difference except with regard to the point which was raised a short time ago in Scotland, viz., respecting cock-fighting. In England the cock is a domestic animal, and in Scotland it is not.

6954. Is there any difference between the English and Irish law as to cruelty to animals?—No. The Act applies to Ireland as well as to England and Wales.

6955. Has your society any prosecutions in connection with the acts of cruelty perpetrated on board ship?—Yes. We recently prosecuted in two cases under the Privy Council Orders.

6956. Where?—At Birkenhead for cruelty, for omission to slaughter animals which were injured on board, and in consequence of that I may tell you we met with a very cold reception from the owners of the ships, who arranged that our officials in future were not to be allowed to go on board.

6957. I suppose that the whole of the prosecutions failed?—No, they succeeded.

6958. We have been told that the law was defective on that point, and no one was responsible?—I have the two cases here, and I can give you the dates.

6959. Is this the Atlantic trade?—Yes, our cases related to the Atlantic trade decidedly; the orders do not apply to Irish but only to the Atlantic traffic.

6960. So that what you would say is that your deduction would be, if the same responsibility were put on the captain on the cross-Channel traffic as is imposed in the Atlantic, the law would be effectual?—Certainly.

6961. Have you had any other prosecutions in connection with acts of cruelty perpetrated on board ship?—Yes. I was not prepared to bring them, or I should have been able to give several. We frequently in the discharge of cargoes have to prosecute drovers and sailors for cruelty.

6962. Is that a thing that often occurs?—Many times. I may say hundreds, I may say several hundreds during the time of my office.

6963. Is there any point on which you consider the law requires amendment in that respect?—No, I do not think so. I think the only want is that we should have more freedom given to us to detect the offences. If our officers were permitted to see the treatment of animals on board ship as they are permitted to see the treatment of animals in the street, and as we are getting to see the treatment of animals in mines, then there would be a great many more offences detected.

6964. How do you get to see the treatment in mines?—By permission; no rights whatever.

6965. I suppose there is no reason that you should not get equally well the permission of shipowners?—Certainly not. I think we are their best friends. I may tell you that at Southampton we are permitted always, and at other small ports we are permitted always. At Birkenhead, until the recent prosecutions to which I referred, we were permitted regularly to go on board ships at Birkenhead. At Deptford we are prohibited by the Order in Council. That is the answer that we have always received. Twenty to thirty years ago it was my custom twice or three times a week to go myself personally with the officers on board ships that came into the Thames. At Thames Haven and other places many times I have gone on board. In consequence of the prohibition at Deptford we really are left out, and we have no knowledge whatever of what takes place there except the statements made to us over and over again by letters written by persons who are on board the ships and who see the landing; the passengers who see the landing and who complain about the cruelty.

6966. But where do the cattle there come from?—I will not exactly say now, because our knowledge is imperfect with regard to the place from which the cattle come because we can get no information.

6967. But there is no cross-Channel traffic there?—It used to be continental almost, and then afterwards we had American vessels.

6968. Its principal animals were imported for immediate slaughter?—Quite so, for the market there.

6969. Why are you prevented from going there by the Order in Council?—I believe it is for the prevention of contagion; that is the answer given, but we have offered under a guarantee that our men shall be submitted to be disinfected just as much as you please, and submit to whatever terms you like to impose upon us.

6970. The prohibition is not exceptional; it extends to everything?—We understand that—quite so.

6971. Your officers watch the embarkation of cattle; there is nothing to prevent that?—You meant from this country?

6972. On the Irish side?—We do not work in Ireland; there are separate societies there.

6973. But you work in connexion with the Irish society?—The Irish society are not a branch of us; they are a separate body. I believe I may say on their behalf that the Dublin Society, at all events, and the Cork Society do watch the embarkation.

6974. Then your officers are also watching at the embarkation at Liverpool and the British ports; they can see if animals are landed in very bad condition, cannot they?—Yes; that is frequently done. I have here an account from Birkenhead that I can read to you about the arrivals of vessels during the month of April, the month just over.

6975. These are not cross-Channel vessels?—I am afraid they are not; they are the Atlantic.

6976. They are no use to us?—Then I have some other reports.

6977. Except in the trans-Atlantic trade you have no complaints made to you of cattle arriving in bad condition?—I am glad to tell you that the reports of the arrivals of vessels crossing the Atlantic during the month of April have been very satisfactory, most satisfactory, I could run over them in two minutes:—April 9 and 10, "Palestine," 337, no casualty at all, arriving in excellent condition; April 13, "Gaditano," 268, no casualty at all; April 14, "Runic," 530, has no casualty at all; "Rossmore," 650, one casualty; April 17th, "Shanandoah," 357, no casualty whatever; "Jessmore," from Rozario, 239, one casualty, they arrived in very poor condition; April 19th, "Oregon," from Canada, 300, no casualty; "Baltimore," Queenstown, 655, two casualties, two animals died on the voyage; one was seen by the officer without one of its horns, which had been broken, but it was bandaged, showing care; April 22, "Ronans," 305, no casualty, he found two or three oxen sick; April 24, "Templemore," 700, two were lame on landing and one dead; she was four days late through bad weather; "Lake Superior," 426, one casualty; on the 28th April, "Baltimore," 742, with three animals killed on board; they were very wild Colorados, which are very difficult indeed to manage, and very likely they were not healthy; "Georgian," 600, with no casualties; "Kanawha,"

350, with one casualty; and in all these cases the officer pronounces them to be in excellent condition.

6978. You have no reports concerning the cross-Channel traffic?—I have got several reports here, and, speaking generally, they also are satisfactory considering all the difficulties that must arise in the transit of animals by vessels.

6979. You say they are satisfactory?—The inspection of our officers is allowed; there are no impediments placed in their way at Liverpool apparently as far as I can see. Three officers and a new secretary have been down there looking at the arrival of all the vessels that come in, and, speaking generally, I may say that there is very little to complain about. There is that which occurs at every market and every fair, the use of the stick to the cattle, which the officers try to stop, and things of that kind which are incident to the transport of cattle and to the removal of the animals from one place to another incidental where you have men of that character and more or less unstalled.

6980. About the tail twisting, what do you say?—There is a little tail twisting, but the officers very soon stop it when they see it. I have a paper here which I think has special reference to your inquiry; it is to the effect and shows that some improvements have taken place since this inquiry began.

6981. This inquiry?—Yes, improvements at Liverpool.

6982. Some improvements have taken place there, do you mean?—Yes, in connexion with the landing. One is "I have to report that since January last the following improvements have been made by the Dock Board at Liverpool. On the landing stage tar asphalt has been laid, giving a better foothold to the animals. The iron wheel guides of No. 7 bridge on the landing stage, the main bridge on which cattle are landed, have been removed, so as to prevent falling or tripping; the iron drinking trough at the pier head has, within the last three weeks, been supplemented by two other troughs. Those are the alterations. I may say that there seems to be always, and always has been, a little difficulty in the landing in consequence of the tide there, where the landing stage is very steep sometimes."

6983. Do your officers who have reported mention any act of cruelty or any instance of apparent ill-treatment, through the want of ventilation, of animals brought across the Channel during the month over which that inspection extends?—During the period to which these two papers refer certainly not, but we have an officer who during the whole of last summer, in fact from the early part of last year and during the whole of the summer and up to October last made several voyages to and fro for the purpose of reporting to me the condition of the animals on board the ships. He is a man of much cattle experience, having been a butcher before he entered our service 14 years ago.

6984. What is the result, have you got his reports?—I have not got his reports here, but I will supply them with pleasure.

6985. Roughly speaking, what was the result?—The weather last year was exceptionally good, as you are all aware. Throughout the year it was very fine, and the accounts which he gave were to my mind surprisingly satisfactory, because the reports which I had previously had for many years past were so much different that I had to write to him, "Are you quite in earnest or 'supine,' and I got satisfactory answers which satisfied me that he gave a full and fair account, as far as a man could, without sentiment on one side and without any desire to heap on agony on the other side."

6986. What lines did he travel with?—He went to Dublin, Cork, Belfast, Dundalk, Drogheda, Coleraine, and Londonderry, and the last voyage was during very bad weather indeed, and that was I think, the Glasgow route—Dublin and Glasgow.

6987. Then the general tenor on those reports is very satisfactory?—I am bound to say so. I should like to add that, I believe, it is entirely owing to the very good weather.

6988. You said that the last voyage was in bad weather?—Yes, and there was every provision made for the animals that could possibly be done; our inspector could see nothing of which he could complain.

6989. You speak of the use of sticks, are you in favour of supplanting all sticks by goads?—I have brought you a goad to show you what a goad is. I have taken

it from the Metropolitan Cattle Market. It is used in that way (*describing*) with the end there, but if a man wants to be severe he uses it that way (*demonstrating*). The goad is there—you will see, that is a regulation stick—that is a stick which is used in the Metropolitan Market, by the consent of the Metropolitan Cattle Market Committee, and the goad itself is not allowed to be more than a quarter of an inch long, and it is not allowed to be sharp, so that it is just what might be called a reminder, used to push the animal, and it is more humane when properly used than a stick.

6990. Several witnesses have suggested to us that in certain places the goad that was used was a brittle stick, so that they could not use it very violently?—I have never seen or heard of it, I have seen thousands of these, but not one of the kind you mention.

6991. (*Mr. Cullen.*) Is that the one you recommend?—Yes. I do not like to use that word "recommend" exactly; but I should say that the goad prevents a good deal of cruelty which otherwise would be committed.

6992. What is the weight of that stick?—I cannot tell, I have not weighed it.

6993. Because that is one of the points, that it is under a certain weight in our district?—The stick has to pass the approval of the proper authorities, and this is a rule which relates to it. It is one of the byelaws for the government of the Metropolitan Cattle Market, Islington, byelaw 34: "No persons engaged in driving 'cattle, sheep, calves, pigs, or lambs within the said limits, or within the market area, shall use any stick 'or other instrument with a goad or point of greater length than a quarter of an inch, under a penalty 'not exceeding forty shillings.'"

6994. (*The Chairman.*) There is nothing further prescribed than this stick?—No, after approval it passes into drovers' hands. Then I may tell you that in the event of a goad being improperly used the officer of the society reports it to the market clerk, and the next year when the drover applies for the license if there is a black mark against his name he is suspended for a week, or a fortnight, or a month, and that is a great deterrent. There is no doubt that the goad properly used is a useful thing; but if that goad were to be improperly used, that is pushed into the eye of an animal, or even if a stick were pushed into the eye of the animal without the goad the eye would be broken.

6995. But it would not be so easy to hit the eye as to hit the bullock?—No; many years ago the regulation was made by the City of London in consequence of the representations made by our society. The tanners of Bermondsey complained, and came as a deputation to us about the great injury done to the hides, for when those hides were held up to the light they were filled with perforations, and in consequence of that we made a movement, and so the City of London Corporation adopted that rule. In the interest of drovers, I wish to add, so far as London is concerned, there is an improvement in their morale and also in their treatment of cattle, a wonderful improvement, during my time of office.

6996. Another mode of persuasion is tail twisting, have you had many reports on that subject?—It used to be very difficult indeed to stop when the animals had to pass through very narrow openings to the slaughter-houses in London, that was just the place where the tail twisting was seen. As you are aware, bullocks, as a rule, have a very happy life; they live in peaceful fields and have a pure atmosphere around them, and when driven through the streets and amongst the traffic they become bewildered, and when you bring them into Aldgate with the narrow openings and ask them to pass through the openings to the slaughter-house they do not understand and they become apprehensive of danger, and they refuse to go. It is very little use beating them, and the drovers used to find that tail-twisting was the most effective means of propulsion. When the tails were broken there were many cases of prosecution and men sent to prison for two and three months for that very offence. Of late years there has been much less of it.

6997. Have you heard any complaints of cases of tail twisting resulting in broken tails occurring on board ship?—No, but severe suffering; though our means of detecting these are restricted.

6998. I ask you because one witness told us that in a certain line there is a great deal of tail twisting, and a considerable per-centage of broken tails. Do you think that would have occurred without the attention

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of your officers, both in England and Scotland, being brought to it?—So far as our officers are concerned in this country I do not think it would be quite correct. We had 7,500 convictions last year, and that will give some idea of the extent of our operations throughout the country. I do not think that I could give you during the last year more than five or ten cases of tail twisting convictions but plenty of warnings given to stop it.

6999. And you have not had cases of broken tails which are alleged to have occurred; has there been a complaint of tail twisting on board ship?—I do not remember one, not of broken tails.

7000. At all events you have not had any large number of them?—Not of broken tails but many of tail twisting.

7001. We have heard about blindness from ammonia in the holds occurring in cattle in consequence of insufficient ventilation in the holds where the cattle are stowed during transit. I suppose your officers would report any cases of such blindness to you?—I think it would be very difficult to find out whether an ox is blind or not; you might find that an animal is a little stupid and appears to be a little blind, but you cannot get near an ox as you can near a horse to examine his eyes. But there is no doubt about the cause; if any one wishes to know anything about it, and see what it is likely to be, let him go into the holds. I think it is the most poisonous atmosphere that I have been in.

7002. Have you seen cases of this ammonia blindness?—No, I cannot say that I have, I should not be at all surprised at it.

7003. (Sir William Kaye.) Your society has had no prosecutions about it?—No.

7004. What is your definition of cruelty?—The causing of unnecessary pain.

7005. (Mr. Watson.) In the return that you spoke of for Irish cattle landed, what period does it cover, the late return, was it the same one as the American?—The return to which I referred here, do you mean?

7006. Yes?—That was only for the month of April.

7007. That is the same month as the American?—Certainly.

7008. Can you tell how many cattle there were during that period?—No, I have not taken the particulars, by referring to the reports I could tell.

7009. As regards goads; at one period the society prosecuted people for the use of goads?—Certainly.

7010. Was it the same goad?—Certainly not; we have prosecuted persons for using the goad improperly, because we have found that they pushed the goad into the eye; we have found cases of long, sharp goads, but that was in the markets.

7011. But this goad that you now exhibit is a recognised goad?—Yes, it should be used only behind.

7012. And any drover would be justified in using it as far as you are concerned?—Certainly.

7013. I suppose there is no doubt that it does not perforate the skin?—It does not if fairly used.

7014. That was the great objection to goads?—That was the objection before the regulation was made. May I just say in answer to that, when we suppressed the bull fighting which came over to this country, we got possession of the darts of the matadors, and then we got possession of the bulls; that was at the Agricultural Hall, and in those prosecutions I had to take a very prominent part, and therefore I can speak. We got possession of the bulls, and they were killed in London, and when we got those hides and held them up to the light, we could see what the goad will do when sharp; they were like a sieve owing to the perforations of the goads that were used, but now that the goad is short and blunt, we have ceased to get any complaints from the tanner.

7015. The skin you speak of as being perforated by the injuries inflicted by the Spanish goad, were similar ones used in this country?—They were longer than those used in this country; sharp ones were used until that regulation came out.

7016. It was not done by this goad?—Not by that goad but by Spanish goads.

7017. They were satisfactory returns that you gave of the Irish cattle last year. You said the weather was exceptionally fine?—Yes.

7018. What part of the year was it?—I should say, speaking at random, from about March to May, June, July, August, and September.

7019. And, of course, the latter part of the year was exceptionally severe?—I consented to one of my officers going for that duty for six months and that period ended with September.

7020. It was during the summer months?—Yes.

7021. (Mr. Booth.) In the Act, with regard to the word "vehicle," I think you said there had been no case decided?—Not by the judges.

7022. Does that imply that there has been no prosecution involving the treatment on board a boat that would come under that clause of the Act?—No, there was a case of pigs we prosecuted once in the Thames; I forget the name of it; it was a vessel that came to the Thames, and we prosecuted the mate for conveying pigs in such a manner as to subject them to unnecessary pain; that is under the 12th section. But, generally speaking, we have prosecuted under the 2nd section, and this is the section: "That if any person shall, from and after the passing of this Act, cruelly beat, illtreat, over-drive abuse, or torture, or cause or procure to be cruelly beaten, illtreated, over-driven, abuse, or torture any animal, every such offender shall for every such offence forfeit and pay a penalty not exceeding five pounds." We want to avoid all difficulty which might arise from a legal argument. There the generalisation is so good that it meets nearly every case of cruelty.

7023. You prosecuted under that other clause because of the difficulty of the word "vehicle"?—Just so.

7024. But surely the section that you have quoted hardly covers an example of neglect. For instance, there might have been neglect to supply food, you will say, but you cannot bring a complaint of cruelly beating, ill-treating, and so on?—I beg your pardon; we have had thousands of convictions under that section for neglecting that duty. We say you cause an animal to be ill-used by not providing food.

7025. That does meet the case of neglect?—Certainly, in part, but not so well as desired.

7026. Then in that report of the "Caloric" from Liverpool in April, which landed her cattle in the Princes' Dock on Sunday morning, April 1st?—Yes.

7027. Can you give us the nature of that. I think it is very important from the point of view of steeper gradients?—I can read you the three reports from the three officers, but all agree that there was no cruelty.

7028. With regard to the inspector, whom you received reports from last summer, to which you have referred; did the inspector in his reports refer at all to the question of ventilation?—Yes, he has frequently spoken of ventilation being improved, and there can be no question of it, except in the case of the "Blackrock."

7029. Did he speak with regard to overcrowding?—There was no overcrowding.

7030. Then he did mention it?—He mentioned that there was no overcrowding.

7031. Did he at all refer to want of the passage-way, or to the general arrangements of the pens with the view of getting at the cattle?—Yes; he says that the stanchions and the size of the pens were in accordance with the Privy Council Order; I think that we can all speak of the ventilation being as bad as possible in most of the vessels, especially the tramps.

7032. (Mr. Cullen.) I think you mentioned that the atmosphere in the holds of the ship was poisonous?—Very.

7033. And unfit for animals to live in?—Certainly.

7034. Would not that come within the definition of cruelty?—I am afraid that unless I could prove some animal was poisoned, we could not get a magistrate to convict, a magistrate wants something tangible before he convicts; the mere theory that it was poisonous would not do. We have gone so far as to test with test papers, and my experience is that we never could get a summons on the test papers.

7035. You have never heard of ammoniacal blindness on account of this poisonous atmosphere?—Yes, I have heard of it many times, but I have never seen it.

7036. But you corroborate the poisonous nature of the atmosphere?—I should think that my experience would go to confirm it; I think that it is not unreasonable.

7037. And all these ships are improperly ventilated, as a general rule?—Yes; there are some which have got the fan, which is rather exceptional. Many years ago we got Mr. Warrenner, of Messrs. Maudesley & Co., the engineers, to go on board the ships for the purpose of gaining information, and, after receiving it, we wrote to all the owners of vessels (that is about 18 or 20 years ago) suggesting that fans should be provided.

7038. I presume that Mr. Warrenner was a competent engineer?—He was one of the firm of Messrs. Mandesley and Co.

7039. Do your society prosecute for dishorning now?—I am glad to tell you that there are no cases; I was to bring you some information with regard to dishorning, and I think I cannot do better than place the two pamphlets which I have here, in your hands, for they cover the whole ground of the dishorning cases, and also the structure of the horn; everything that you require for the purpose of going into that question.

7040. It is only the cruelty department?—That is all.

7041. Supposing it is done in an efficient manner you have no objection to it?—If it be done by budding, that is to say, the incipient horn taken away from the calf when young to prevent the horn from growing we should say that that was the most effectual way, and a most desirable order to be given by the country; that would prevent the necessity of dishorning. Take the case of this particular prosecution which had reference to something which took place in Norfolk. The animals were first of all brought from Ireland to Norfolk, and then they were dishorned. The argument for dishorning, if you remember, is always that when the horn is left on the animal, injure each other on board ships, but those animals were brought all the way from Ireland, and then brought down to Norfolk, and they dishorned them afterwards. Goring is a reason why the budding should take place. You will see not only the cases presented to the magistrates in petty sessions, but also the case presented before the judges, and the judges themselves will convict in such cases.

7042. So that it is the fact that it is illegal?—Yes; it is illegal in England and it is legal in Ireland, and also in Scotland, owing to the difference of opinion by the judges.

7043. But there is a general feeling for the purpose of humanity in the carriage of the cattle that they should be dishorned, and the contention is that when it is carefully done there is very little suffering—not nearly so much as in the ordinary castration of animals?—I will not agree to that; I say that the dishorning is a very cruel process indeed, and it ought to be prohibited entirely, and that nothing will justify it.

7044. Even when humanely done?—It cannot be done humanely, because the operation itself is a cruel operation. If you look at this the whole of the substance cut through is vascular. If I cut through your spinal column I could not do it humanely. It means cutting through a great deal of substance, and when that substance is vascular you give a great deal of pain.

7045. But you object to the dishorning when the animals are beyond a certain age?—Yes; the operation should be performed only when they are young.

7046. But that is impracticable in all cases?—There are two ways in which dishorning may be done; the first is by breeding out the horn—that is a process of dishorning which the Scotch breeders very frequently adopt; and the second is by the process of budding, that is to say, taking out the incipient horn, which competent authorities have reported to me may be done with scarcely any sense of pain whatever on the part of the animal, and that is done when the animal is young. Surely that is much better than to allow the horn to grow, and then cut it off afterwards.

7047. (Mr. Field.) I think you stated that some of the Liverpool owners of vessels who used to allow you to go on board have prohibited you in consequence of these prosecutions?—Yes, at Birkenhead.

7048. Do I understand that this prohibition extended also to the Irish companies bringing cattle into port?—No.

7049. I want to know that. You think that if the responsibility was given to the captain with respect to cruelty to animals under his charge, as they ought to be, that would prevent a great deal of the mishaps that

take place?—Who would you make more responsible, the mate or the captain?

7050. Someone should be made responsible?—Certainly.

7051. Someone on board the ship should be responsible with respect to the carriage of the animals?—Certainly; we reckon the mate is responsible, as the captain is charged with the navigation.

7052. Is it your experience that there is nobody held responsible at the present time on board these cross-Channel transit boats whom you could charge with responsibility?—The mate. We have prosecuted the mate several times with regard to horses and cattle.

7053. Have they upheld the prosecutions?—Yes.

7054. Notwithstanding the statement made by some witness here as to the absence of responsibility, you have legally proved that there is a legal responsibility attaching to the mate?—Certainly, when we prove he was in charge of the cargo.

7055. I think you said in Deptford they had an objection to your visiting the cattle ships in consequence of the danger that might accrue by the carriage of disease through your person. Have you conveyed to the authorities that you were desirous to comply with any orders for disinfection if necessary?—I wrote a letter many years ago to Deptford offering that our officers should be disinfected.

7056. Was that before the Board of Agriculture came into existence?—Yes.

7057. Have you renewed that application to Mr. Gardner?—No.

7058. I think you ought to do it?—I should be most happy but we have applied through the superintendent down at Deptford.

7059. Have you communicated with the Irish Society for the Prevention of Cruelty to Animals?—Frequently.

7060. Is there any unanimity of action with respect to the overseeing of the Irish trade?—There is a similarity of action.

7061. And you have received reports from the other side of the Channel?—We have occasionally received reports of the despatch of vessels that ought to be watched on arrival. We frequently receive Dublin reports to show that they are on the alert.

7062. I think you said that since this inquiry was instituted some improvement has been manifested in Liverpool?—In the landing stages, from what I have read.

7063. You stated that your officer's report on the voyages made during the season was very favourable?—Favourable.

7064. May I ask have you gone into the relative numbers of the cattle that were carried during the time that gentleman was on board and compared them with what the men in our business call their "throng," or busy season?—No.

7065. Are you aware that, as a matter of fact, your officer in the six months, or whatever number of times he may have gone on board, exactly hit on the time when there was the least number of cattle to be carried and, of course, the least possible necessity for the use of his functions?—In answer to that I may say that I am not aware that there was any preconceived idea of evading cruelty, for his object was to find out cruelty. I beg to assure you that I could not find any myself. The time hit upon was not selected by ourselves but by a committee sitting in Lancashire, who appealed for the immediate employment of an officer.

7066. I do not want to find any cruelty unless it exists, but I want to convey this, that he went at the wrong time of the year?—We know that he did, because there was no cruelty.

7067. You know yourself that that is so?—We know now, but we could not tell what the weather would be at sea during six months.

7068. But it is not the time that the cattle are brought—it is not so much the weather?—There were some very good cargoes of cattle.

7069. Would you think it worth while to institute a prosecution with regard to the defective ventilation, of which you have very much complained, even at the risk of not succeeding, in order that the matter might be brought before the public?—Personally I would say

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yes, but the society which I represent makes a rule of not prosecuting unless there is a strong *prima facie* case.

7070. Would you agree with certain witnesses here who have given evidence stating that in their opinion the ventilation left nothing to be desired on board the Irish boats generally?—I should disagree with them altogether.

7071. You are speaking from your experience?—Not from my experience, but from the reports.

7072. From the reports that you have had at various times you would entirely disagree with that?—Certainly.

7073. Do you remember when you sent out those recommendations about the adoption of a certain system of ventilation; I suppose you sent it to the Irish ship-owners?—We took the list of all shipowners carrying cattle.

7074. Did you receive any report from the cross-Channel people?—It is too long ago to be carried in my head. I could not say.

7075. As to the question of dishorning, are you aware that in Ireland this case was tried, and very fully tried, by a most competent court of judges, and that the operation was held to be legal?—Yes, that it was not contrary to the law as provided in 12 & 13 Vict. c. 92.

7076. Not contrary to the law. I happened to belong to the committee which took the matter up. Are you aware that there was a similar result in Scotland?—Yes.

7077. Do you think that there ought to be a difference in this particular matter between the law of Scotland and Ireland and that of England?—I think that there should be convictions in Ireland and Scotland on the same evidence as in England. I disagree with the ruling of the Irish judges.

7078. I do not wish to say anything further than this; do you think that the agricultural men in Scotland and Ireland who ought to know the agricultural business better than the people in the manufacturing districts of England ought to be subjected to the rule of England where apparently they do not know sufficient about the business?—They are not subject to that.

7079. (Mr. Parker Smith.) I wanted to ask you about the Cruelty to Animals Act. The clause that you attach importance to is the second clause?—Yes, the second clause.

7080. That is really the only effective clause?—It is the effective one.

7081. It does appear to give sufficient power, does it not?—No, it wants amending very much.

7082. What further do you want?—The insertion of the word "permit." "If any person shall cause or procure, or "permit," the same word that is in all the statutes of the United States, all the modern statutes have got the word "permit." That would make it much more easy to prove the cases of what is called neglect or passive cruelty.

7083. But if the word "permit" was inserted, in your opinion that would cover sufficiently all cases?—As far as the enacting clause is concerned, yes. There are other things of a general character which we should be glad to see amended.

7084. But as covering this offence it would do?—Certainly.

7085. You attach no particular importance to section 12?—Section 12 is essential in one respect, if you look at it, it says, the animal must not be conveyed in such a manner as to subject the animal to unnecessary pain—that helps the application of the statute a little in the mind of a magistrate.

7086. Have you obtained any convictions under that section?—Many hundreds—carrying calves with their heads hanging out of carts for instance.

7087. But the question of the vehicle; of a ship being included under that term, that has never been raised, has it?—No.

7088. Then you spoke of the difference with regard to Scotland, and you told us how much importance you attached to that clause. Do you attach any particular importance to the fourth section which was the other distinction you pointed out about compensation?—No, because compensation could be obtained in a civil court. A separate summons is always needed in the

event of the owner whose animal has been ill treated applying also for compensation under that section. Therefore, instead of proceeding before the magistrates he could always proceed in a civil court in the event of a conviction for cruelty having taken place.

7089. Then the other distinction you pointed out between England and Scotland. You said the Act in Scotland only applied to wanton cruelty?—Yes; that is a most important matter.

7090. Has your attention been directed to the enacting words in the first section. You find the word "wanton" in the first line of the Act. Have you got the Scotch Act?—Yes.

7091. You find the word "wanton" in the first line?—It is to prevent wanton cruelty.

7092. Where you come to the enacting words at the end of the first section, if you look at that they are the same as the English Act?—But pardon me, if I say, lawyers are very cute and very clever, and they frequently, in cases of this kind, come before the court and try to interpret the enacting part of the clause by the preamble, and they say this Act is only for the purpose of preventing wanton cruelty, and that is the reason why the word should be expunged. The Act which was amended by the passing of 12 & 13 Vict. contained the word "wanton," and we got that word expunged because of the difficulty of proving acts of cruelty to be wanton.

7093. In the enacting clause of that Act?—It provided that no person should be guilty of any wanton act of cruelty, and the word was expunged because of the difficulty of bringing offences home by proving intention. You prove intention only by the act of the man, that he intended the reasonable consequence of his own act; but we have magistrates all over the country who would take a very different view if the word wanton governed the section, and this would make the law completely inoperative.

7094. But this is your own reasoning. You have no practical experience of the working of the Scotch Act?—But I have got experience of the working of the Act which contained the word "wanton." It was the enacting clause of the old English Act which contains the "wanton" word.

7095. Are you aware that the enacting clause overrides the preamble?—In the opinion of lawyers, but not in the practice of advocates. In our Act the preamble is of the greatest possible service. It is an Act for the more effectual prevention of cruelty; those words are extremely useful before a hesitating or resisting magistrate.

7096. You have spoken about your men being allowed on the ships?—Yes.

7097. You do not wish that they should have any statutory right?—I should have no objection.

7098. Do you ask for it?—Yes.

7099. Do you see any distinction between your men and any other members of the public?—No, except that they are trained in the structure and ailments of animals, the law of evidence, and the provision of the Act of Parliament. There are difficulties I know. We are not an incorporated society, and we do not belong to the Civil Service or to any service of the realm. At the same time we frequently get our officers sworn in as constables, and then they act as constables. But even constables have no right of entry because ships are private property.

7100. But you have, by permission of the companies, the right?—We have often.

7101. What you think most practical is that that system of permission should be extended to other cases?—Yes; we have no objection to complying with any conditions that they like to lay down. That before any proceedings are taken a report shall be given of what we have seen, as we do in the mines, to the manager of mines.

7102. Has your society conducted any prosecutions with regard to the cross-Channel vessels?—Not cross-Channel.

7103. (Major Tennant.) In expressing approval of the goad, I understand that you consider they could be used, provided they were under proper control?—Yes, the goad produced, certainly.

7104. What description of control would you suggest?—Only the control of persons using it improperly. If

a man is using a whip improperly, so as to be guilty of cruelty, he is brought before a magistrate; and so with a goad, or a spur, if it is used improperly, then the person can be prosecuted.

7105. You think that general control would be sufficient?—I think so, because we have found a wonderful improvement in the last 10 or 15 years, partly through our arrangement with the clerk of the markets that cases of the improper use of the goad shall be reported to him.

7106. You are speaking of metropolitan markets where the drovers are licensed?—That is quite true.

7107. What do you infer; that it is an advantage, or disadvantage, that the drovers should be licensed?—It is an immense advantage.

7108. Both for controlling the use of the goad, and generally in matters of cruelty?—Certainly.

7109. You mention that you had seen hides when held up to the light full of holes?—Yes.

7110. Have you heard of the well-known cattle pest called the warble fly?—Yes.

7111. Are you sure that it was not the effect of the warble fly which you saw?—That is a bigger hole.

7112. You know the difference between the two?—Yes, that is "a tarnation big hole," as Mark Twain says. With regard to that we frequently send out little notices to our officers at the particular part of the year to be on the watch for these pests, because their ravages can be prevented.

7113. You mention again that in former years you had prosecutions for tail twisting?—Yes.

7114. Am I to understand that you prosecuted simply for twisting the tail, or breaking the tail?—We prosecute when the tail is twisted to such an extent as to be ill-treatment. You agree with me that cruelty is always a matter of degree.

7115. As to the voyages made by your inspector during the summer months between Ireland and Great Britain, of course one does not in any way undervalue the importance of his evidence, but I have no doubt that you had in your mind, when considering his reports, the fact that he was going at a time when the weather was most likely to be fine, and also when the trade was likely to be most slack?—Yes, but I will tell you how it arose. The Cheshire Branch of the society had called together a few gentlemen for the purpose of considering the cattle transit of the country. They made a resolve to apply to me for an officer to be told off for special duty, and then the lady who acted as their secretary pressed the matter of action on me that it should proceed immediately, and it was in consequence of that that the duty was done at that particular time. But in all cases the officer was instructed, if he saw bad weather coming, to go right off without waiting for instructions, so that he might take the bad weather.

7116. But it no doubt occurred to you that the pressure of traffic is greater in the time of year when the weather is worst, and no doubt it occurred to you that if cruelty took place, it would most likely happen when the pressure is greatest?—Certainly, we get the complaints at those times.

7117. As to the question of dishorning, you suggested that there are two methods of getting rid of the horn; one was by breeding out; that is rather a lengthy process?—Yes, it is.

7118. But the other method I understand is very effectual, called budding?—Budding is the best remedy.

7119. You have never attempted to prosecute any offender for dishorning where the horns have been removed when the animal is still quite young?—When they are quite young? I do not know what you mean by quite young.

7120. We cannot fix it under heads. It would depend upon the description of cattle, and many other things, but so long as the horn is quite small your society would not object to its removal?—Certainly not when quite small. I think it is then in an undeveloped condition, and the nerves therefore would not be fully developed.

7121. It is still soft and spongy?—It is almost like budding.

7122. Your society, if anything, would be rather disposed to have them removed than not?—Yes; but I

think that the other plan called budding is better still. We would rather, as a lesser evil of the two, have them dishorned in that way, because we know cattle injure each other by their horns, and we also know that there is a great temptation for certain persons to cut their horns. As the law stands in Ireland and Scotland the operation will still go on if an easy substitute is not provided.

7123. (Chairman.) Do your inspectors often go round the meat markets to see the condition of the carcasses slaughtered as indicating cruel treatment?—No; and I think it would be extremely difficult to prove cruelty from an indication that might be shown in the carcass.

7124. I am not speaking about the proof of cruelty, but merely as to the confirmation of evidence; they do not go round, do they?—No. May I say that in the event of a bruise it would be impossible to know whether that was inflicted by a blow, or whether the animal had fallen. I do not know how you can say what sort of proof you can get from the examination of the carcass except in flagrant cases, and then we do provide post mortem evidence.

7125. As a matter of fact your inspectors have no instructions to make that inspection?—They have not, except in flagrant cases.

7126. One witness mentioned to us a form of cruelty which you said was practised upon pigs, and which you think should be put an end to, and that is branding with knives?—Yes, it is an awful scratch or wound 18 inches long.

7127. Why do not you interfere?—We do, but we cannot interfere if we only see the animal; we must prove who does it. In this country we have nearly got rid of it. We used to find scratches, and every man had his own mark. One had two tines, and another three or four tines, and they would slash with four slashes right across the body. It is the same with regard to the cutting of the ears of sheep. One man has got one mark, and marks his sheep accordingly, and another man puts his other mark on the sheep's ear, until the animals have lost their ears almost.

7128. (Mr. Field.) That is among the breeders?—Yes, breeders and dealers.

7129. (Chairman.) There is another form of cruelty in connection with the transit of cattle which ship-owners suggest should be put an end to by law or by order of the authorities, and that is the transport of pregnant cattle, which are very liable during a rough voyage to slip their young. Has that form of cruelty or animal suffering been brought under your notice?—Certainly; but not with regard to transit over the sea; but with regard to railway travelling we have convicted several times.

7130. Is there any law as to the railways?—We bring it under the second section, causing ill-treatment to an animal; or under the twelfth section, as to subjecting the animal to unnecessary pain and suffering.

7131. Have your prosecutions in connection with this matter interfered with the practice of conveying pregnant cattle?—I think it is much less than it used to be.

7132. There is no Order in Council in connection with railway traffic?—No. I think that we have proved to the satisfaction of the magistrate that the animal has suffered from being compelled to travel during impending parturition, and thereby have succeeded in getting a conviction; but you will see that it is rather a difficult thing to prove that.

7133. Where have you had such prosecutions?—In Leeds and in five or six other places. I remember the case in Leeds because it came under Mr. Bruce, the stipendiary magistrate, and he spoke out very strongly about the practice.

7134. (Mr. Field.) I think you said you could not distinguish how bruises were caused, whether by falling or by a stick. Did it ever occur to you that bruises caused by a beast being beaten across the loins or the ribs would be very difficult to be occasioned by a fall?—It depends upon what it falls upon; if it fell upon the battens of a landing stage or a ship, the bruise might be very similar to a blow from a stick.

7135. But the bruises that are occasioned by falls generally occur to the lower part of the animal, and are not on the back of the animal; another question, about the warble fly; could your society help in

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exterminating this pest?—We should be very glad to do so; I have written several articles on the subject.

7136. Could you see your way to prosecuting people for gross neglect in allowing cattle to be infested with

The witness withdrew.

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M.R.C.V.S.

Mr. J. A. Bole, M.R.C.V.S., called and examined.

7137. (*Chairman*.) You are a member of the Royal College of Veterinary Surgeons of England, are you not?—Yes.

7138. You were appointed Veterinary Inspector in Ireland in 1874, and Supervisor at Belfast in 1888?—Yes.

7139. And now you hold that position in Belfast?—Yes.

7140. Does your office cause you to see animals brought for shipment?—Yes.

7141. What opinion have you formed about their condition; you have seen a great number of them, I suppose?—There is no doubt about it, and I can speak from my experience of 20 years that the condition in which animals are brought for inspection and the condition in which they are shipped has very much improved.

7142. And now you consider it satisfactory?—Practically so.

7143. Will you, please, tell us the course of business with respect to your inspection?—The cattle are brought into the inspection yard during the hours of daylight: that is the general rule between sunrise and sunset. A man is in charge, or the owner may be the man in charge, and he fills a paper setting forth his name and address, and the number and description of the animals intended to be presented for inspection. This paper is handed to me. I examine this particular lot of animals to see that they are all healthy, and having satisfied myself that no disease exists amongst them I direct a man who had been told off for the purpose to put on the Government brand, which is a crown. On the back of this form is a license and a certificate of health stating that I have examined the cattle or animals, sets forth in the application form and that I find them healthy. I sign this, and that license is only good for the day on which it is issued. Those animals must be put on board before sunrise the next day. The animals are then driven either to the place of shipment or to one of the cattle lairs. Sometimes they are left in the inspection yard until required for shipment. It is a matter for the shipping company as to the hours at which they are presented for shipment; they are driven on board, and as they come on board there is a ship inspector who takes up this license, examines it, and sees that the license is a perfect instrument, and that the cattle are branded as they go in, and that the number tallies with the number set forth in the license.

7144. You say a ship inspector, what do you mean?—He is one of our officers at Belfast; we have five.

7145. Is there any fee charged for this inspection or branding?—There is no fee whatever.

7146. It is done at the public expense?—In Belfast it is partly at the expense of the Department, as the man who brands is a servant of the railway company, but so far as the professional inspection goes and the ship inspection, the expense is borne by the Department.

7147. What do you mean by this paragraph in your evidence: cattle as a rule presented for inspection in good condition; when such is not the case it is generally owing to their arrival by late trains, from which they are taken direct for immediate inspection and shipment?—That is when animals are brought in to the inspection yard from a considerable distance by rail; the train arriving, we will say, in the later hours of the day, coming on up to the time at which the ship sails. The animals are taken out of the trucks, presented for shipment after a very long voyage by rail, we will say, and then shipped immediately.

7148. Without any opportunity of getting food and water?—Those are the exceptional cases.

7149. Take the exceptional cases. Have you ever had occasion to determine how many hours animals on arriving have been without food or water?—We had a case sometime ago with respect to small pigs; the case

these warble flies?—There is a difficulty; you cannot prosecute people for not doing something unless you can prove an obligation to do it; there is a difficulty with regard to the law.

was brought up—I do not remember it now, but it is under the 12 hours section. It is, of course, under the Cruelty Act, not under our own, and the magistrates considered the case was a good one, but as there was some doubt about the owners of these pigs receiving a message from the railway company to take them away they refused to convict, but on no point of law.

7150. What do you mean by a 12 hours clause?—There is a section in the Cruelty to Animals Act about keeping animals, I think, over 12 hours without food.

7151. But there must be a great many cattle in transit kept very much longer than 12 hours without food?—I believe that fully. But the difficulty is to prove it.

7152. Has any attempt been made to prove it?—Yes, in this case, and there is a case at the present time pending.

7153. I ask you that question because it has been mentioned to us as a matter of course that animals were very much longer than 12 hours without food in transit, and we never heard of its coming within the Act as being defined as legal cruelty?—Anyone conversant with the cattle trade must admit that animals are kept beyond that time. There is a very great difficulty in proving it.

7154. Suppose you got animals coming by this late train which you had reason to believe had not been fed for a good long time would it be within your function to prevent them from going on until they had been fed in the morning?—Unless I could say that it interfered with the actual health of the animal, or that I could not perform my inspection properly—if I were unable to form an opinion as to the health or otherwise by the appearance of it at the time then I should refuse to inspect.

7155. Unless you could say that they were in such a depressed condition owing to prolonged want of food and water that you could not certify that they were healthy you would have to pass them?—Precisely.

7156. Tell us as to the lairage in Belfast?—We have three inspection yards; they are only suitable for inspection and there is not accommodation enough for the lairage of animals. But there are lairs in different parts of Belfast inside the boundary and outside there are fields and sheds for the accommodation of such cattle.

7157. A great number of cattle just come across the country to Belfast for shipment and you know probably where they come from. Are there many of the markets from which they come so far removed as to render it highly probable that the animals have been a good long time without food or water?—Yes, the cattle are principally brought from the south part of Ulster and from the northern counties of Leinster and Connaught, and cattle come from Roscommon as they frequently do.

7158. Take Roscommon, how long would it take to get from Roscommon?—If cattle are trucked we will say this morning they may get the following morning to Belfast. That is not an infrequent thing.

7159. They leave in the morning and arrive the same evening?—Not the same evening that they are trucked. Say they are trucked in the morning, they will arrive in the forenoon of the following day, and are shipped the same evening; they are from 24 to 48 hours without food.

7160. From Roscommon to Belfast?—Yes, I have been informed so, so far as I could learn. I am stating an extreme limit.

7161. At Roscommon we have had reference to complaints made as to the delay in getting forward the cattle after a fair, and a former witness has sent in a paper saying that the same thing has occurred on the occasion of the last fair only a few days ago. He says that, "Although a special temporary paling was erected to the entrance to the green for the easy entrance and exit of cattle great complaints were heard on all

"sides of the cruelty to lots which were driven through the streets. The Midland Railway Company had nine special trains in readiness, as well as a special staff for despatching stock, still this was not sufficient, and an additional number of waggons had to be provided in the evening. The accommodation for loading cattle on an occasion of this kind is not at all by any means sufficient, and it is to be hoped that an improvement may be made in this matter previous to some other of our large fairs coming off. The nine special trains carried off about 3,050 cattle, and on Saturday a full special train was despatched with sheep from here." That is a quotation from the "Roscommon Messenger" of the 28th April. That would indicate that animals would find great difficulty in getting food or water in Roscommon before the train started?—Yes.

7162. By the time that they arrive at Belfast, assuming the cattle to have been on the journey for a longer time than you imagine, they must be pretty well famished?—Of course, when I stated that I stated the limit, it would not be the average time.

7163. In your experience, in the course of your inspections, have you seen animals in such a condition as to indicate that they were exhausted for want of food and water before going on board?—So far as food is concerned I have every reason to believe that in several cases they wanted food, but there is a good supply of water in our inspection yards and they are allowed access freely. There is a supply of water in the pens and the animals are put into pens for inspection and branding.

7164. We have been told that the owners in many instances object to their cattle getting water immediately after travelling. That prejudice does not exist among those in charge of the cattle?—Oh! it does exist. They have an objection, if animals are driven for a distance to water, those cattle when they come in pretty warm, particularly when they are for immediate shipment.

7165. But when they come by train they are allowed to drink?—Except in the case of cows—pregnant cows, and they are mashed, that is, they are given more warm drinks.

7166. They are better treated than the others?—Certainly.

7167. Now you say that the shipment is very carefully looked after by a most efficient and intelligent staff of ship inspectors, under the immediate control of Sergeant Murray, of the Royal Irish Constabulary, and from time to time supervised by you?—Yes.

7168. I suppose you would have an opportunity of seeing what is going on; what is your opinion as to the driving of cattle and getting cattle on board?—The ship inspectors are very attentive to see that there is no cruelty exercised by the drovers in putting them on board. If a case of cruelty comes under their notice they simply take the name of the offender and summon him to the court.

7169. Have there been many summoned before the court?—Yes; we have two or three.

7170. Lately?—We have had one lately. In the latter part of last year we had one.

7171. What sort of cruelty?—For beating cattle in putting them on board. This man beat the cattle and drove them in amongst other cargo lying in the shed, and he refused to desist when the ship inspector spoke to him.

7172. I believe that you are not only an official of the Privy Council but an active member of the Irish Society for the Prevention of Cruelty to Animals?—Yes, the Ulster Society.

7173. Are most of your officers connected with the society?—All our officers, I think they are, or used to be, honorary members of the Dublin Society. I am on the Executive Committee of the Ulster Society.

7174. Have you any reason to say anything about tail twisting in Belfast?—I have occasionally seen it, but very seldom.

7175. Not to cause the breaking of the joints?—No, an animal may get down in the gangway and refuse to move, but they are treated very differently from what they used to be. Some twenty years ago they used to twist their tails to any extent, or send tobacco juice into their eyes. I have seen that done.

7176. How do they deal with them now, do they simply use the least amount of force?—The least amount of force necessary.

7177. We have had different accounts as to the difficulty of getting animals along the gangway. Do you find that they are difficult to drive into the ships at Belfast?—A great deal depends upon the men you have at work. Some men are very smart at the work, and then if there is a man stowing those cattle that knows his work, it stops an immense deal of cruelty. The cattle are kept moving in, there is no great beating, and particularly when the tide is not low and the gangway at a fair angle cattle came on board well.

7178. What do you call a fair angle. We were told I think, by the chief cattle superintendent at Belfast that their gangways were never more than at an angle of 30 degrees, that is not a steep angle?—No, I think 30 degrees is not.

7179. Have you seen the gangway greater?—I have seen gangways at as sharp an angle as that, and cattle load very well through them.

7180. You have seen such a steep gangway in use at Belfast?—Occasionally.

7181. In what boats?—In the screw-boats.

7182. But they are all screw-boats, the Belfast and Glasgow and Messrs. Burns' boats?—The majority are screw-boats.

7183. Messrs. Laird's boats are screw-boats?—Yes, the newer boats of the Fleetwood and Barrow Company.

7184. The Fleetwood belonging to the London and North-Western and the Lancashire and Yorkshire Railway Companies?—Yes.

7185. Are they so constructed as to require a steeper gradient?—No, they are paddle-boats with the exception of the newest one.

7186. But you have not seen anything in the way of steep gangways so exaggerated as to require animal-versions?—No.

7187. The penning of cattle on board is closely watched by the ship inspectors you say, and if not properly done before the boat sails, the fact is reported to you. Does one of your inspectors go on board?—Yes, certainly.

7188. To see that the boat and the cattle are properly stowed and the provisions of the Animal Ireland Order are strictly enforced, and you say that convictions have been obtained. When were those convictions obtained?—It is three or four years ago since we had a case of improper penning.

7189. What company was that?—The Barrow Company. The cattle were stowed in the lower hold and the space was not divided by proper pens nor furnished with proper footholds.

7190. You say that particular attention is paid in Belfast to the stowing of cattle on board and the prevention of overcrowding. Have you any rules as to the prevention of overcrowding?—No, I do not believe that any rules can be laid down as to the overcrowding of cattle. It is a matter that a man could only judge of by experience.

7191. As many cattle as can be got are got into each pen; is not that so?—Yes, as many as possible are put into a pen without overcrowding, but, I believe, in the ordinary way of loading, the cattle if fairly close together are safer.

7192. Any case not rectified of overcrowding is at once reported for further consideration, you say. What is the result of your further consideration?—If the inspector is in doubt about the matter he examines the pen pretty closely, and he draws the attention of some of the responsible officers on board to the matter, and, as a rule, the matter is rectified at once. If not it is reported to me, and I submit it to my own department.

7193. Are you strongly of opinion that there are undoubted benefits derived from the due administration of the Cattle Diseases (Ireland) Acts, and the orders and regulations made thereunder by the Irish Veterinary Department?—I am.

7194. And that they work greatly to the benefit of the Irish cross-Channel traffic?—Decidedly.

7195. You mentioned that Sergeant Murray has obtained special recognition from the Society for the prevention of Cruelty to Animals?—Yes, he is our chief ship inspector.

Mr.
J. A. Bole,
M.R.C.V.S.

2 May 1894.

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7196. I do not know whether you could get us any specific point on which I ask you, namely, as to the distances from which animals had come, the times at which animals arrive in Belfast, and the probability as to their having been without food. When you go back to Belfast will you kindly look into that?—Certainly.

7197. If you can get any exact information, if you write to myself or the Secretary of the Committee I think it might be of advantage?—Of course, any information I get must be hearsay naturally, but corrected by my own judgment as to distance.

7198. (*Major Tennant.*) Many of the cattle that pass through Belfast come from inland places in Ireland, do they not?—Yes.

7199. Do they come a considerable distance?—Yes.

7200. And in many cases they are booked through, are not they?—Yes.

7201. Some of these herds are accompanied by caretakers and in some cases they are not?—Yes, in most cases they are looked after by ordinary drovers.

7202. Sometimes they have a caretaker representing the owner, and sometimes they have not?—Yes.

7203. Have you observed, where a caretaker is in charge of animals, that they are more frequently fed than if they have no caretaker in charge. What I mean is this:—I suppose in some cases the owners send a herd through, and they send no one with them, but they may send directions to some one at the point of embarkation to feed those cattle, and that does happen sometimes, does it not?—Yes, but as a rule at Belfast when the cattle come, some of the ordinary drovers or agents take up these cattle. It is very seldom cattle come with the servants or the owners themselves from a distance.

7204. I want you to tell me this: do the cattle have any advantage as regards getting food if they are accompanied by the owner or some one representing him, and always with them?—I do not think that it depends so much upon that as who the owner is. Some men will feed the cattle if with them, and if they are not with them they give them in charge of a man on whom they can rely as to the feeding. Some men will not feed their animals; and there is a case pending at the present time against the owner, although there was plenty of time for feeding the animals before putting them on board.

7205. (*Mr. Field.*) I happen to know something about Belfast and some members of the Irish cattle trade who are in it, and they have made grievous complaints about the pen accommodation in Belfast. Do you know anything about the accommodation, the lairage, and pen accommodation in connection with the railways and shipping companies at Belfast?—Yes.

7206. Do you consider them sufficient?—For inspection?

7207. For inspection only?—For inspection only.

7208. Do you consider that the accommodation in Belfast, generally speaking, is sufficient for the requirements of the trade and to provide for the comfort and convenience and feeding of the cattle?—I think the general accommodation could be improved upon.

7209. Would you go further than that and say that it needs improvement?—Well, I would be inclined to say so.

7210. Then you would recommend to this Committee that some steps should be taken in the way of improving that accommodation in Belfast?—I did not say so.

7211. I would not be so stringent except that I have had so many communications about the insufficiency of the accommodation at Belfast?—I think it would tend to the advantage of the trade generally.

7212. During a long period, so far as you know, the cattle are neither fed nor watered?—Yes.

7213. During a period that you think it would be unreasonable for the cattle to fast?—Yes.

7214. Is the Royal Association for the Prevention of Cruelty to Animals in connexion with the Dublin Society? Do you correspond with one another?—No. The Ulster Society is a distinct body.

7215. It has no communication with Dublin?—No connexion.

7216. Have you sent anyone across the Channel to see how the cattle are treated?—No.

7217. Your function begins and ends at Belfast?—Yes.

7218. When the animals leave Belfast you know nothing more about them?—Quite so.

7219. You exercise no jurisdiction and no supervision; when the animals get to sea you leave them in the hands of the shipowners?—Yes.

7220. Has no one been made responsible for the management of those cattle during the voyage? Have you any means of knowing it?—No.

7221. Then this Committee is to take it that so far as you are here as a representative witness your jurisdiction and functions begin and end at Belfast?—Yes.

7222. And you have nothing whatever to do with the sea voyage?—Except so far as any casualties we can hear of.

7223. But you have nothing to do with the normal condition of the traffic?—No.

7224. (*Mr. Booth.*) With regard to these ship inspectors you said there were five in Belfast?—Yes.

7225. Are there not sometimes so many as eight or nine boats leaving Belfast the same evening?—Not quite so many.

7226. How many?—I should say that seven would be about the average.

7227. One of those ship inspectors would supervise one boat?—Yes, so far as the looking after the cattle going in is concerned, and counting them.

7228. But there are occasions when there are six or seven boats leaving at the same time, and there are only five ship inspectors?—Yes; when the traffic is heavy it is a difficult thing for a man to do it entirely.

7229. When there is a press of business?—Yes.

7230. Then you, as a veterinary surgeon, could you give us your idea as to the length of time cattle might reasonably go without food? Have you any view about that that you have considered at all scientific?—I have never formed an opinion on the matter, at least, very closely, because a great deal depends upon circumstances. Strong, healthy, fat cattle are very different from weak or young ones, and then there is the question as to whether it has been fed up to the time of leaving for Belfast.

7231. (*Chairman.*) What do you say about the difference between fat and lean cattle?—Cattle in good condition, and well fed up to the time that they are put on board, can go very much longer without food than weakly cattle.

7232. (*Mr. Booth.*) What is a reasonable time for an animal to go without food on a boat or anywhere else?—I consider 12-24 hours is a long enough fast for the strongest and healthiest cattle.

7233. With regard to water, there are troughs in every pen, and there is every chance of the animals getting it. But do you think that animals are often sent from Belfast without getting water; do you think it often happens in those yards?—Yes, it may happen.

7234. Mr. Burns mentioned, and of course you are well acquainted with his boats to Belfast and Glasgow, that they have passages between the pens to get at the cattle, if I remember right?—Yes, some of the pens have.

7235. I do not ask you that, we take it as a fact, but do you find the same thing with regard to other vessels from Belfast?—In some instances the pens are accessible, but in a great number of cases the pens are not accessible, and have not separate passage-ways leading to them. On some of the boats there are pens that, when loaded, and when the adjoining pens are also loaded, cannot be got at except by climbing over the animals.

7236. But there are some besides Mr. Burns that are furnished with a certain passage-way?—Yes, to get access to them.

7237. Are you at all acquainted with the "Dynamic," which has been going up the Manchester Ship Canal?—I know all the Liverpool boats.

7238. Do you know if she has an arrangement for feeding on the way?—I am not aware of any arrangements for feeding on board any of the boats from Belfast.

7239. With regard to the angle of the gangway, you spoke of 30° as being a very easy gradient. Do you

know that 30° is a very common gradient for a staircase. There is a good deal of vagueness about these figures. Would you rather not be pinned down to say that 30° is an easy gradient?—I should imagine that 30° would be, but cattle are seldom loaded when the gangway is at this angle.

7240. But you have not looked at it as drawn upon paper, have you?—No, I have not.

7241. (*Mr. Watson.*) Are you aware that 30° is a very common gradient for a staircase?—No, I am under the impression that a great many staircases are at a much sharper angle.

7242. (*Sir William Kaye.*) The shipping generally is from Belfast to Scotland?—Yes, and to England—to Fleetwood, Barrow, Liverpool and Whitehaven.

7243. What is the average length of voyage to Scotland?—About seven hours.

7244. Are the others not shorter?—To Greenock it is about six or seven hours, the Barrow and the Fleetwood boats take about eight hours, and the boats to Liverpool about ten hours, and those to Ardrossan about six and a half hours.

7245. There are several lairs at Belfast, are there not?—Yes.

7246. Those are licensed lairs?—Not licensed, but there is supervision as to cleansing and disinfection.

7247. And they are regularly inspected and supervised?—Yes.

7248. And is there accommodation for the cattle on arrival to be fed and watered if the owners choose to go to the expense of it?—Yes.

The witness withdrew.

Adjourned *sine die*.

Mr.
J. A. Bole,
M.R.C.V.S.
2 May 1894.

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APPENDIX No. 1.

(Handed in by Mr. F. A. FULFORD. See Q. 943.)

RETURN showing the NUMBER of CATTLE, SHEEP, and SWINE exported from IRELAND to PORTS in GREAT BRITAIN on the 16th, 17th, 18th, and 19th November 1893, and also the following Particulars in connexion therewith:—

1. Name of Irish port from which vessel sailed.
2. Name of port of arrival in Great Britain.
3. Date and time of departure from Irish port.
4. Date and time of arrival at British port.
5. Number of animals of each class carried.
6. Number of animals of each class which died during voyage.
7. Number of animals of each class which were injured during voyage.

Name of Vessel.	Port in Ireland from which Vessel sailed.	Port of Arrival in Great Britain.	Date and Time of Departure from Irish Port.	Date and Time of Arrival at British Port.	Animals on Board.				Number of Animals injured during Voyage.				Number of Animals that died during Voyage.			
					Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.
Hound - -	Belfast -	Ardrossan -	16.11.93 9.45 p.m.	17.11.93 3.35 a.m.	8	—	17	25	—	—	—	—	—	—	—	—
City of Belfast	" -	Barrow -	16.11.93 8.30 p.m.	17.11.93 8.40 a.m.	88	—	220	308	1	—	—	1	—	—	—	—
Duke of Clarence.	" -	Fleetwood -	16.11.93 8.21 p.m.	17.11.93 7.40 a.m.	10	—	14	24	—	—	—	—	—	—	—	—
Magic - -	" -	Liverpool -	16.11.93 9.40 p.m.	17.11.93 4.0 p.m.	—	—	—	—	—	—	—	—	—	—	—	—
Carrick - -	" -	Ayr - -	17.11.93 8.15 p.m.	Returned to Belfast on 18.11.93 and discharged her cargo.	70	—	19	89	—	—	—	—	—	—	—	—
Gorilla - -	" -	Ardrossan -	17.11.93 10.18 p.m.	18.11.93 8.0 a.m.	73	—	—	73	—	—	—	—	—	—	—	—
Manx Queen -	" -	Barrow -	17.11.93 9.0 p.m.	18.11.93 7.0 a.m.	36	—	233	269	—	—	—	—	—	—	—	—
Princess of Wales.	" -	Fleetwood -	17.11.93 8.17 p.m.	18.11.93 7.48 a.m.	2	—	88	90	—	—	—	—	—	—	—	—
Alligator - -	" -	Glasgow -	17.11.93 8.12 p.m.	18.11.93 11.0 a.m.	—	—	20	20	—	—	—	—	—	—	—	—
Caloric - -	" -	Liverpool -	17.11.93 8.20 p.m.	18.11.93 7.35 a.m.	—	—	—	—	—	—	—	—	—	—	—	—
Hound - -	" -	Ardrossan -	18.11.93 2.40 p.m.	18.11.93 9.15 p.m.	92	—	—	92	—	—	—	—	—	—	—	—
Carrick - -	" -	Ayr - -	18.11.93 8.50 p.m.	19.11.93 7.15 a.m.	—	—	19	19	—	—	—	—	—	—	—	—
City of Belfast	" -	Barrow -	18.11.93 8.25 p.m.	19.11.93 5.15 a.m.	—	—	107	107	—	—	—	—	—	—	—	—
Earl of Ulster -	" -	Fleetwood -	18.11.93 8.12 p.m.	19.11.93 6.30 a.m.	47	38	—	85	—	—	—	—	—	—	—	—
" - -	" -	" -	18.11.93 8.12 p.m.	19.11.93 6.30 a.m.	47	38	—	85	—	—	—	—	—	—	—	—
Dromedary -	" -	Glasgow -	18.11.93 10.10 p.m.	19.11.93 9.8 a.m.	43	—	—	43	—	—	—	—	—	—	—	—
Optic - -	" -	Liverpool -	18.11.93 11.55 p.m.	19.11.93 11.20 a.m.	—	—	—	—	—	—	—	—	—	—	—	—
Minnie Hinde	" -	Whitehaven	18.11.93 7.30 a.m.	Returned to Belfast on 18.11.93 and discharged cargo.	16	—	6	22	—	—	—	—	—	—	—	—
Fern - -	Coleraine -	Glasgow -	19.11.93 3.45 p.m.	20.11.93 7.20 a.m.	10	90	8	108	—	—	—	—	—	—	—	—
Cumbræ - -	Cork -	" -	16.11.93 9.0 p.m.	19.11.93 12.0 p.m.	231	10	10	251	16	—	—	16	6	—	—	6
Glanmire - -	" -	Liverpool -	16.11.93 5.15 p.m.	17.11.93 5.35 p.m.	36	—	22	58	—	—	—	—	—	—	—	—
Juno - -	" -	Bristol -	17.11.93 3.15 p.m.	18.11.93 5.0 p.m.	456	67	122	645	2	—	—	2	1	—	—	1
Xema - -	" -	Milford -	17.11.93 4.45 p.m.	18.11.93 12.30 p.m.	157	532	128	817	—	—	2	2	—	1	—	1
Cormorant -	" -	Plymouth -	18.11.93 11.45 p.m.	20.11.93 4.30 p.m.	179	—	—	179	8	—	—	8	1	—	—	1
St. Finbar -	" -	Southampton	18.11.93 9.0 p.m.	20.11.93 6.0 a.m.	—	—	182	182	—	—	—	—	—	—	7	7
Glengariff -	" -	Liverpool -	18.11.93 9.0 p.m.	20.11.93 8.20 a.m.	330	20	—	350	—	—	—	—	1	—	—	1
Colleen - -	Drogheda -	" -	17.11.93 5.0 p.m.	18.11.93 4.30 a.m.	154	110	502	766	—	—	—	—	—	—	—	—
Kathleen -	" -	" -	19.11.93 7.0 a.m.	19.11.93 7.0 p.m.	416	251	60	727	—	—	—	—	—	—	—	—
Nora - -	" -	" -	19.11.93 7.0 a.m.	19.11.93 7.0 p.m.	306	478	—	784	—	—	—	—	—	—	—	—

Name of Vessel.	Port in Ireland from which Vessel sailed.	Port of Arrival in Great Britain.	Date and Time of Departure from Irish Port.	Date and Time of Arrival at British Port.	Animals on Board.				Number of Animals injured during Voyage.				Number of Animals that died during Voyage.			
					Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.
Tredagh -	Dregheda -	Liverpool -	19.11.93 7.0 a.m.	19.11.93 7.0 p.m.	305	181	—	486	—	—	—	—	—	—	—	—
Irene -	Dublin -	Holyhead -	16.11.93 12.40 p.m.	16.11.93 7.40 p.m.	211	—	300	601	1	—	9	10	1	—	1	2
North Wall -	" -	" -	16.11.93 8.20 p.m.	17.11.93 4.0 a.m.	282	191	—	473	5	—	—	5	11	—	—	11
Anglesey* -	" -	" -	*17.11.93 1.0 p.m.	17.11.93 6.20 p.m.	275	340	—	624	—	—	—	—	—	—	—	—
Adela -	" -	Liverpool -	16.11.93 9.0 p.m.	17.11.93 3.30 p.m.	212	10	—	222	1	—	—	1	—	—	—	—
Blackrock -	" -	" -	16.11.93 6.20 p.m.	17.11.93 11.0 a.m.	347	129	—	476	161	40	—	201	—	—	—	—
Mullingar -	" -	" -	16.11.93 7.30 p.m.	17.11.93 10.30 a.m.	126	30	—	156	Information not given				1	—	—	1
Leitrim -	" -	" -	16.11.93 7.20 p.m.	17.11.93 8.50 a.m.	237	71	257	565	—	—	—	—	1	—	5	6
Olive -	" -	Glasgow -	16.11.93 6.10 p.m.	17.11.93 10.0 a.m.	158	—	—	158	—	—	—	—	—	—	—	—
Cedar -	" -	Morecambe -	16.11.93 4.45 p.m.	17.11.93 8.30 a.m.	110	236	367	713	—	—	—	—	5	—	—	5
Yarrow -	" -	Silloth -	16.11.93 4.20 p.m.	17.11.93 3.33 p.m.	336	—	—	336	—	—	—	—	5	—	—	5
Duchess -	" -	Holyhead -	17.11.93 5.20 p.m.	18.11.93 6.35 a.m.	128	744	178	1,050	—	—	—	—	—	—	—	—
Olga -	" -	" -	17.11.93 8.36 p.m.	18.11.93 2.35 a.m.	46	966	223	1,235	5	—	—	5	1	7	4	12
Mayo -	" -	Liverpool -	17.11.93 4.50 p.m.	18.11.93 12.55 p.m.	460	159	75	694	Information not given				46	—	—	46
Cavan -	" -	" -	17.11.93 7.20 p.m.	18.11.93 11.55 a.m.	101	—	—	101	—	—	—	—	2	—	—	2
Duke of Fife -	" -	Glasgow -	17.11.93 6.15 p.m.	19.11.93 5.25 a.m.	314	—	55	369	—	—	—	—	—	—	1	1
Argo -	" -	Bristol -	17.11.93 2.15 p.m.	18.11.93 12.30 p.m.	34	—	—	34	—	—	—	—	—	—	—	—
Irene -	" -	Holyhead -	18.11.93 12.40 p.m.	18.11.93 8.0 p.m.	89	271	663	1,023	6	4	—	10	1	8	—	9
Galway -	" -	Liverpool -	18.11.93 3.35 p.m.	19.11.93 10.20 a.m.	382	183	28	593	—	—	—	—	6	1	2	9
Kildare -	" -	" -	18.11.93 7.0 p.m.	19.11.93 12.40 p.m.	284	1,232	—	1,516	Information not given				1	2	—	3
Leitrim -	" -	" -	18.11.93 8.50 p.m.	19.11.93 2.15 p.m.	193	175	86	454	—	—	—	—	—	3	3	6
Duke of Argyll -	" -	Glasgow -	18.11.93 6.50 p.m.	19.11.93 6.55 a.m.	230	—	—	230	—	—	—	—	—	—	—	—
Meath -	" -	Liverpool -	18.11.93 9.5 p.m.	19.11.93 2.10 p.m.	439	58	—	497	Information not given				2	—	—	—
Cedar -	" -	Morecambe -	18.11.93 7.0 p.m.	19.11.93 6.0 p.m.	220	—	154	374	—	—	—	—	—	—	—	—
Eblana -	" -	Liverpool -	19.11.93 2.45 a.m.	20.11.93 3.30 p.m.	412	113	—	525	—	—	—	—	—	—	—	—
Thistle -	" -	" -	19.11.93 3.0 a.m.	Returned to Dublin and discharged her live stock.	31	346	—	377	—	—	—	—	—	—	—	—
Mullingar -	" -	" -	19.11.93 8.20 a.m.	20.11.93 11.40 a.m.	321	447	—	768	Information not given				—	—	—	—
Earl of Erne -	Dundalk -	" -	17.11.93 4.30 p.m.	18.11.93 9.0 a.m.	12	31	351	394	—	—	—	—	—	—	—	—
Bessbrook -	" -	Ardrossan -	19.11.93 6.30 a.m.	21.11.93 8.15 a.m.	—	—	17	17	—	—	—	—	—	—	—	—
Eleanor -	Greenore -	Holyhead -	16.11.93 9.30 p.m.	17.11.93 5.41 a.m.	23	—	2	25	—	—	—	—	—	—	—	—
Earl Spencer -	" -	" -	17.11.93 8.45 p.m.	18.11.93 4.41 a.m.	—	—	60	60	—	—	—	—	—	—	—	—
Eleanor -	" -	" -	18.11.93 8.45 p.m.	19.11.93 3.28 a.m.	—	—	107	107	—	—	—	—	—	—	—	—
Princess May -	Larne -	Stranraer -	16.11.93 5.50 p.m.	16.11.93 8.0 p.m.	108	—	—	108	—	—	—	—	—	—	—	—
" " -	" -	" -	17.11.93 5.50 p.m.	17.11.93 8.0 p.m.	130	—	—	130	—	—	—	—	—	—	—	—
Mona -	" -	Ayr -	17.11.93 12.15 a.m.	18.11.93 6.9 a.m.	—	—	—	—	—	—	—	—	—	—	—	—
Princess May -	" -	Stranraer -	18.11.93 5.50 p.m.	18.11.93 8.0 p.m.	283	—	—	283	—	—	—	—	—	—	—	—
Mona -	" -	Ayr -	19.11.93 1.45 a.m.	19.11.93 10.0 a.m.	—	—	—	—	—	—	—	—	—	—	—	—

* Misplaced.

† Killed or injured.

Name of Vessel.	Port in Ireland from which Vessel sailed.	Port of Arrival in Great Britain.	Date and Time of Departure from Irish Port.	Date and Time of Arrival at British Port.	Animals on Board.				Number of Animals injured during Voyage.				Number of Animals that died during Voyage.			
					Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.	Cattle.	Sheep.	Swine.	Total.
Ivy -	Larne -	Liverpool -	19.11.93 11.0 a.m.	19.11.93 8.0 p.m.	—	—	—	—	—	—	—	—	—	—	—	—
Aranmore -	Limerick -	Glasgow -	18.11.93 12 noon	21.11.93 3.30 a.m.	213	6	—	219	7	—	—	7	—	—	—	—
Azalea -	Londonderry -	Morecambe	16.11.93 5.25 p.m.	17.11.93 11.0 a.m.	186	25	79	290	—	—	—	—	—	—	—	—
Mastiff -	" -	Glasgow -	17.11.93 2.20 a.m.	17.11.93 5.30 p.m.	28	—	35	63	—	—	—	—	—	—	—	—
Lamprey -	" -	Fleetwood -	17.11.93 5.0 p.m.	18.11.93 9.0 a.m.	—	—	—	—	—	—	—	—	—	—	—	—
Mystic -	" -	Liverpool -	18.11.93 9.45 p.m.	19.11.93 3.0 p.m.	—	692	103	795	—	—	2	2	—	16	—	16
Thistle -	" -	Glasgow -	18.11.93 7.15 p.m.	19.11.93 8.30 a.m.	74	—	28	102	—	—	—	—	—	—	—	—
Iveagh -	Newry -	Liverpool -	18.11.93 4.30 p.m.	19.11.93 6.0 p.m.	67	184	134	235	—	—	—	—	—	—	—	—
Brier -	Sligo -	Glasgow -	19.11.93 12 noon	20.11.93 12.40 p.m.	25	5	141	174	—	—	—	—	—	—	—	—
Liverpool -	" -	Liverpool -	19.11.93 1.0 p.m.	20.11.93 5.50 p.m.	—	—	346	346	—	—	—	—	—	—	—	—
Milford -	Waterford -	Milford -	16.11.93 7.30 p.m.	17.11.93 5.30 a.m.	—	—	—	—	—	—	—	—	—	—	—	—
Dunbrody -	" -	Bristol -	17.11.93 5.0 p.m.	18.11.93 1.25 p.m.	383	294	199	876	—	—	1	1	1	—	—	1
Lara -	" -	Liverpool -	17.11.93 1.0 p.m.	19.11.93 4.25 a.m.	150	400	324	874	—	3	33	36	1	34	5	40
Waterford -	" -	Milford -	17.11.93 7.30 p.m.	18.11.93 6.30 a.m.	73	219	—	292	1	—	—	1	—	—	—	—
Tuskar -	" -	Southampton	18.11.93 4.0 p.m.	19.11.93 11.30 p.m.	—	—	15	15	—	—	—	—	—	—	—	—
Milford -	" -	Milford -	18.11.93 8.0 p.m.	19.11.93 5.50 a.m.	63	168	74	305	—	—	—	—	—	—	—	—
Comeragh -	" -	Liverpool -	19.11.93 8.30 a.m.	20.11.93 6.0 p.m.	182	2	108	292	—	—	1	1	—	—	—	—
Eden Vale -	Wexford -	" -	17.11.93 Time of departure not given.	Vessel returned to port on 19.11.93 and sailed again on 20.11.93.	108	297	187	592	1	1	3	5	—	—	1	1

APPENDIX No. 2.

LETTER from Mr. J. LEISHMAN supplementing his EVIDENCE as to DETERIORATION of CARCASSES of CATTLE overheated in Transit. See Q. 1616.

216, Gallowgate, Glasgow,

May 21, 1894.

DEAR SIR CHARLES,

IN answer to yours of the 19th inst., I think the shorthand writer has confused that part of my evidence you refer to. However, if I understand, what you wish to know now, is the amount of deterioration on the carcass of a good bullock, that may have got heated on board the steamer in the hold or otherwise, to such an extent, that the flesh became black or dark in colour. I am sure the loss accruing would not be less than 6s.

per cwt., as the meat of such animal though a first class animal to begin with could not be supplied to any first-class customer neither would it be possible to get this meat to take the salt. I think 4d. per lb. or 3s. per cwt. in my evidence refers to the amount of difference we require to purchase Irish cattle at under ordinary circumstances. I hope this may be sufficiently plain. When my evidence came down to be checked I was in Germany so Mr. Kirkwood in my absence looked over it. It might have been better if I could have had the opportunity of doing so myself.

Yours, &c.

JOHN LEISHMAN.

APPENDIX No. 3.

(Handed in by Mr. J. A. KIRKWOOD. See Q. 1793.)

COPY of LETTER from Mr. J. A. KIRKWOOD, President Glasgow United Fleshers' Society, to Sir WILLIAM S. B. KAYE, Clerk of the Privy Council, Ireland.

Morrison's Hotel, Dublin,

13th February 1889.

SIR,

As requested I have much pleasure in submitting some practical suggestions which may help your Department to understand more clearly the position of the Irish cattle trade as referred to in the memorial

which I had the honour of presenting to you this forenoon.

(1.) Better arrangements for loading and unloading cattle at railway stations and wharves. Proper fencing should be employed as "wearings" to the loading gangways. At present these "wearings," or entrances to gangways, are of the most primitive character, being frequently made up with old hogsheads, crates, and boxes.

(2.) Improved ventilation by increased inlets and outlets. As now existing, ventilation is largely depen-

dent upon open hatchways. Again necessarily, when the weather is the least bit rough, these hatchways are shut. The ventilators are almost invariably situated amidships—the forward parts being unprovided for—consequently when the hatches are closed the best sources of ventilation are practically cut off.

(3.) All cattle to be tied up with head ropes, excepting calves or stirks.

(4.) Cattle-carrying steamers should be spaced off in divisions of say 13 feet by 8 feet, to hold six fat bullocks, or eight medium-sized animals. The deck flooring to be battened in such a way that sufficient foothold is afforded to the animals; further, that straw or other litter be provided.

(5.) That the hatchways from 'tween decks and lower hold be of sufficient height and breadth to admit of fat cattle being shipped or landed without injury; at present the animals are frequently injured severely on the back by coming in contact with the combings of the hatchways.

(6.) That no movement of cattle should be allowed during the voyage for the purpose of "trimming" the steamers, except at the risk of the steamship companies.

(7.) That for every 100 head of cattle one cattleman be allowed in charge on behalf of the owner or consignee.

(8.) That where the voyage will exceed 12 hours, fodder and water shall be provided.

(9.) That inspection, when made under the electric or other artificial light, shall be understood to meet the requirements of the Privy Council Order. That inspection shall take place only from sunrise to sundown.

(10.) That the regulations controlling the transit of cattle shall be carried out by the officers of the local authorities at the various ports. The duty of such officials being specially defined to include the inspection of cattle-carrying steamers, with the view of preventing overcrowding and the ill-treatment of cattle during loading or transhipment.

(11.) That any infringement of the rules presently in force, or such other rules as may be made, shall be subject to a heavy penalty—a 20s. fine being nothing to wealthy steamship or railway companies.

(12.) That in the appointment of executive committees on local authorities it is quite within the spirit and meaning of the Act that practical men outside the municipal body can be elected to assist in the administration of the law. I point, as illustrating this more fully, to the fact that in Glasgow two practical fleshers have for the last six years been nominated to act with the local authority of Glasgow.

I have put together the foregoing points, somewhat hurriedly, in order to comply with the promise made you this forenoon; but on my return to Glasgow I shall submit the matter to my committee, so that at another time a more detailed statement will probably be sent you.

Again thanking you for the great courtesy and kindness shown to myself and colleagues, I have the honour to subscribe myself,

Your most obedient servant,

JAMES A. KIRKWOOD,
President of the Glasgow United
Fleshers' Society.

APPENDIX No. 4.

LETTER from Mr. T. C. NELSON, supplementing his EVIDENCE as to state of IRISH CATTLE TRADE, with Enclosure.

39, Bellgrove Street, Glasgow,

6th June 1894.

SIR,

I AM anxious to explain that the official returns which show that the Irish cattle trade has increased seem in conflict with my evidence, which I wish to explain thus: That the official returns do not, nor cannot, make distinction between the fat and store cattle. It was to the fat cattle I intended to allude in my evidence. The store cattle trade has increased prodigiously during the past year, owing to the exclusion of Canadian cattle, and, from further examination, I am quite convinced that I was inside the mark in saying that during the time alluded to the Irish fat cattle trade at Glasgow market has decreased by 50 per cent. In further confirmation of this I enclose you a note signed by every salesman or firm of salesmen who handle Irish stock in Glasgow market.

Trusting you may see your way to place the enclosed before your Committee,

Yours respectfully,

Sir Charles Cameron, Bart. THOMAS C. NELSON.

SIR,

Glasgow, 6th June 1894.

WE, the undersigned, representing the entire live stock trade of Glasgow market, as far as the Irish fat cattle trade is concerned, respectfully contend that there are great defects in the system under which Irish cattle are conveyed across the Channel to this port, which has resulted in the falling off in the trade, in this market, during the past 10 or 15 years by almost 50 per cent.; and we further unite in ascribing the great bulk of the decrease in this particular branch of business to the wretched condition in which the animals arrive at this port.

SPEEDIE BROTHERS.

DANIEL MEIGHAN.

JOHN COLGAN AND SONS.

ROBERTSON, JOHNSTON, AND ROBERTSON.

CHARLES LANYAN.

D. AND J. HEGARTY.

ROBERT YOUNG & CO.

EDWARD WATSON AND RITCHIE.

MACDONALD, FRASER, & CO.

JOHN SWAN AND SONS, LIMITED (J.F.)

THOMAS C. NELSON.

Sir Charles Cameron, Bart.

APPENDIX No. 5.

LETTER from Mr. JAMES D. O'CONNOR supplementing his EVIDENCE as to VENTILATION. See Q. 4850.

Stephen's Green Club, Dublin,

May 22, 1894.

DEAR SIR CHARLES,

I RECEIVED your letter of 19th instant for which I am obliged. We have in our vessels, in addition to the ordinary, mechanical ventilation. I was prepared to state the descriptions if I had been asked, but I did not think it necessary to make any but a general contradiction to the statement that we had no mechanical unless called on to do so. We have four steamers:—

The Duke of Argyll.

Duke of Leinster.

General Gordon

Duke of Fife.

I will give you on other side the system for each.

I am, &c.

JAMES D. O'CONNOR.

Sir Charles Cameron, Bart., M.P.

1. "Duke of Argyll," Schiel's Blower. By which the air is taken from seven feet above upper dock and distributed by pipes running round the sides of the hold and 'tween decks.

2. "Duke of Leinster," Root's Blower.

3. "General Gordon," Root's Blower.

4. "Duke of Fife," patent air compressor for inducing fresh air and exhausting foul. Supplied at a cost of 400l. about, by Messrs. Andrews & Co., Marsham Street, Westminster, with the compressor running at 200 revolutions per minute the amount of induced air would be about 15,000 cubic feet per minute, at 150 revolutions, 10,000 cubic feet per minute; into the ship.

APPENDIX No. 6.

LETTER from Mr. G. TURNBULL supplementing his EVIDENCE, and enclosing ENGINEER'S REPORT as to VENTILATION of ss. "Olive." See Q. 5866.

DEAR SIR CHARLES, 52, Robertson Street, Glasgow,
May 21, 1894.

I AM this morning in receipt of your favour of 19th instant. Shortly after my return from London I requested that the system of ventilation in the fore 'tween decks of the "Olive" should be tested by the patentee and our engineer, and I am now pleased to enclose their report. There was an unfortunate misunderstanding of the first report furnished to me, and upon the strength of which I gave evidence. The 1,400 cubic feet was intended to be given as the capacity of one ventilator, whereas besides being considerably under the mark, there were two to be taken into account, so that the total quantity of air expelled amounts to 4,651.5 cubic feet per minute. The time taken to completely empty and re-fill the hold is calculated as 2.068 minutes. For every 115 animals I make this equal to 2,426 cubic feet per hour for each animal. There are down cast ventilators of equal size and power. Besides this there are two cowl ventilators, not mechanical, and wind sails let down into the hatches. I beg to apologise for having to correct my figures, and can only say in explanation that at the time my first inquiries were made the subject was entirely new to me.

Yours, &c.

GEORGE TURNBULL.

Sir Charles Cameron, Baronet, M.P.,
80, St. George's Square, London, S.W

Enclosure.

Anderston, Glasgow,
May 18, 1894.

DEAR SIRS,
The following particulars are the results of tests made on board your ss. "Olive," in fore 'tween decks, on 17th instant.

Capacity of fore 'tween decks (as given
by your Mr. R. Laing) - - - = 9,022 cubic ft.
Two upcast ventilators:
Starboard - 1' 11 $\frac{3}{4}$ " $\times$ 1' 11 $\frac{3}{4}$ " = 3.9375 c. ft. area.
Port - - - 2' 0 $\frac{3}{16}$ " $\times$ 2' 0" = 4.03 "
Mean speed of air through starboard
vent - - - - - = 577 ft. per min.
Mean speed of air through port vent = 590.25 "
Cubic capacity taken out
per minute in starboard Cubic Feet.
vent - - - - - = 577 $\times$ 3.9375 = 2272.11
Cubic capacity taken out
per minute in port vent = 590.25 $\times$ 4.03 = 2379.41
Cubic capacity taken out per minute by
both vents - - - - - 4651.5

Thus time taken to completely empty and re-fill hold =
 $\frac{9622}{4651.5} = 2.068$ minutes.

Trusting these figures are satisfactory,

We are, &c.

LEES, ANDERSON, AND CO.

Messrs. Alex. A. Laird & Co.,
17, McAlpine Street, Glasgow.

APPENDIX No. 7.

EXTRACT from LETTER from ULSTER MARINE INSURANCE COMPANY (LIMITED) to Mr. JOHN NOAKES enclosing *pro forma* copy policy on CATTLE shipped across CHANNEL. See Q. 6688.

To JOHN NOAKES, Esq.,

WE enclose, as requested, *pro forma* copy policy on cattle shipped across channel, with walking ashore clause, similar to that which we are in the habit of issuing. For the City of Dublin Company we are at present issuing cattle policies with the live stock clause, which we have pinned to the *pro forma*—substituted for the india rubber stamp—but it is uncertain how long we may continue doing so. We are also issuing ordinary fpa. policies on cattle to some shippers in the coasting trade at a reduced rate of premium.

ENCLOSURE in LETTER from ULSTER MARINE INSURANCE COMPANY (LIMITED).

THE ULSTER MARINE INSURANCE COMPANY, LIMITED.

DIRECTORS:

Sir Daniel Dixon, Chairman.
Henry Boyd.
A. D. Lemon.
Alfred M. Munster.
Adam Duffin.
John D. Barbour, D.L.
Robert W. Corry.

Capital, £250,000.

Fully Subscribed.

Incorporated 1867.

MANAGERS AND UNDERWRITERS:

Messrs. Sinclair & Boyd.

BANKERS:

The Belfast Branch of the
Bank of Ireland.

REGISTERED OFFICES:

28, Waring Street, Belfast.

No. _____

£ _____

LIVE STOCK.

IT IS AGREED that the within Insurance shall commence from the time when the Live Stock shall be laden on board the said Steamer Craft or Boat as within and continue until the said Live Stock be discharged and safely landed at as within including all risks of the Sea Rivers or Harbour or Navigation or from the Act of God, the Queen's Enemies Pirates Restraints of Princes Rulers or People Jettison Barratry Collision Stranding Fire on Board improper careless or unskilful Navigation or from Accidents connected with Machinery or Boilers defects in the Ballasting or Stowage or from any fault negligence or mistake of the Master Officers or Crew of the Vessel (mortality arising from natural causes excepted).

WHEREAS it hath been proposed to The Ulster Marine Insurance Co., Limited, by _____ as well in their own name, as for and in the name and names of all and every other person or persons to whom the subject matter of this Policy does may or shall appertain in part or in all to make with the said Company the Insurance hereinafter mentioned and described. Now this Policy Witnesseth that in consideration of the said person or persons effecting this Policy having promised or otherwise obliged themselves to pay forthwith for the use of the said Company at the Offices of the said Company the sum of

as a Premium at and after the rate of _____

per Cent. for such Insurance

the said Company takes upon itself the burthen of such Insurance to the amount of One hundred and twenty Pounds sterling and promises and agrees with the Insured their Executors Administrators and Assigns in all respects truly to perform and fulfil the Contract contained in this Policy. And it is hereby agreed and declared that the said Insurance shall be and is an Insurance (lost or not lost) at and from Dublin to Liverpool,

The within Insurance shall commence from the time when the Live Stock shall be laden on board the said Steamer and continue until the said Live Stock be discharged and safely landed (mortality from natural causes excepted). Cattle walking ashore, or if siung from the vessel, walking after being taken out of the slings, to be deemed safely landed.

And it is also agreed and declared that the subject matter of this Policy as between the Insured and the Company so far as concerns this Policy shall be and is as follows upon 10 Cattle valued at £12. each in the Ship or Vessel called the _____ whereof _____ is at present Master or whoever shall go for Master in the said Ship or Vessel

Including all risk of Craft and Boats to and from the Ship or Vessel.

And the said Company promises and agrees that the Insurance aforesaid shall commence from the time when the Goods and Merchandise shall be laden on board the said Ship or Vessel Craft or Boat *as above* and continue until the said Goods and Merchandise be discharged and safely landed *at as above*. And that it shall be lawful for the said Ship or Vessel in the voyage so Insured as aforesaid to proceed and sail to and touch and stay at any ports or places whatsoever without prejudice to this Insurance. And touching the Adventures and Perils which the said Company is contented to bear and does take upon itself in the Voyage so insured as aforesaid they are of the Seas Men-of-War Fire Enemies Pirates Rovers Thieves Jettisons Letters of Mart and Counter Mart Surprisals Taking at Sea Arrests Restraints and Detainments of all Kings Princes and People of what Nation Condition or Quality soever Barratry of the Master and Mariners and of all other Perils Losses and Misfortunes that have or shall come to the Hurt Detriment or Damage of the aforesaid subject matter of this Insurance or any part thereof. And in case of any Loss or Misfortune it shall be lawful to the Insured their Factors Servants and Assigns to sue labour and travel for in and about the Defence Safeguard and Recovery of the aforesaid subject matter of this Insurance or any part thereof without prejudice to this Insurance the charges whereof the said Company will bear in proportion to the sum hereby insured. And it is expressly declared and agreed that the acts of Insurer or Insured in Recovering Saving or preserving the Property insured shall not be considered a waiver or acceptance of abandonment. And it is declared and agreed that Corn, Fish, Salt, Fruit, Flour, Seeds, Saltpetre, Rice, Hides, Skins, and Molasses

shall be and are warranted free from average unless general or the Ship be stranded sunk or burnt and that Sugar Tobacco Hemp and Flax are warranted free from average under Five Pounds per Cent. and all other Goods also Freight are warranted free from average under Three Pounds per Cent. unless general or the Ship be stranded sunk or burnt.

Warranted free from Capture Seizure and Detention and the consequences of any attempt thereat and the consequences of all Hostilities.

In Witness whereof the Common Seal of the said Company is hereunto affixed and the undersigned on behalf of the said Company according to the Articles of Association of the said Company and a resolution duly passed by the Board of Directors have hereunto set their hands in Belfast this 4th day of May 1894.

Examined _____ *Managers.* _____ *Director.*

APPENDIX No. 8.

(Handed in by Major TENNANT, a member of the Committee.)

STATEMENT of NUMBERS of ANIMALS IMPORTED from IRELAND to GREAT BRITAIN and to LIVERPOOL.
Numbers of cattle, sheep, and swine imported from Ireland into Great Britain and from Ireland to Liverpool in 1893:—

—	Cattle.	Sheep.	Swine.
Great Britain -	688,669	1,107,960	456,571
Liverpool - -	263,741	618,348	144,479

APPENDIX No. 9.

(Handed in by Sir WILLIAM KAYE, a member of the Committee.)

RETURNS of NUMBERS of CATTLE, SHEEP, and SWINE exported from IRELAND to SCOTLAND.

RETURN of the NUMBER of CATTLE, SHEEP, and SWINE exported from IRELAND to SCOTLAND during the Year ended 31st December 1893, showing the PORTS of DEBARKATION in SCOTLAND.

Ports of Debarkation.	Cattle.	Sheep.	Swine.
Ardrossan - - -	17,651	590	11,222
Ayr - - - -	9,695	202	12,714
Glasgow - - -	163,937	33,350	13,487
Greenock - - -	5	8	3
Stranraer - - -	29,928	2,052	6,625
Total - - -	221,216	36,202	44,051

RETURN of CATTLE, SHEEP, and SWINE exported from IRELAND to PORTS in SCOTLAND during the Year 1893, showing the NUMBERS sent to each PORT and from what IRISH PORTS they were shipped.

ARDROSSAN.

Irish Ports.	Cattle.	Sheep.	Swine.
Belfast - - - -	10,919	528	10,731
Dundalk - - - -	382	—	318
Newry - - - -	6,015	62	173
Warrenpoint - -	335	—	—
Total - - -	17,651	590	11,222

AYR.

Irish Ports.	Cattle.	Sheep.	Swine.
Belfast - - - -	7,807	164	5,598
Larne - - - -	1,888	38	7,116
Total - - -	9,695	202	12,714

ENCLOSURE. See APPENDIX 11.
Contract Form for conveyance of Cattle, Sheep, or Pigs.

LONDON AND NORTH WESTERN RAILWAY COMPANY.

The Owner or Shipper of Live Stock has, in all cases, the option of sending Live Stock at one or other of Two Rates of freight (Rate No. 1 or Rate No. 2). Rate No. 1 covers Risk to the amount recoverable for each Animal, under the Railway and Canal Traffic Act, 1854. Rate No. 2 is a *Reduced Rate*, and, when adopted by the Owner or Shipper, the Stock are received and conveyed subject to the conditions referred to below, and solely at *Owner's Risk* in connection with the *Sea part of transit*.

RATE No. 1. £ : s. d. per head. £ : s. d. for 12-feet Wagon. Rates for other Classes of Wagons in proportion. By Section 7 of the Railway and Canal Traffic Act, 1854, no greater sum is, in any case, recoverable for loss of or injury to such Animals, than for any Horse, £50; for Cattle, £15 per head; and for Sheep or Pigs, £2 per head; unless the persons sending or delivering same to the Company shall, at the time of such delivery, have declared them to be of respectively higher value than as above mentioned, in which case it shall be lawful for such Company to demand and receive, by way of compensation for the increased risk and care thereby occasioned, a reasonable percentage upon the excess of value so declared, above the respective sums so limited as aforesaid, and which shall be paid in addition to the above rates. A reasonable percentage will be charged by the Company for excess of value, when so declared.	RATE No. 2. Is the Reduced Rate; the Owner, or Shipper on his behalf, undertaking all risks connected with the Sea part of transit. £ : s. d. per head. £ : s. d. for 12-feet Wagon. Rates for other Classes of Wagons in proportion.
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CONTRACT (No. 1). To be signed for Oxen, Sheep, Calves, and Pigs, at Rate No. 1. It IS HEREBY AGREED between the undersigned, and the London and North Western Railway Company, that the animals named on the other side are to be conveyed without any condition limiting the legal liability of the Company. SIGNED. { _____ Owner. or _____ on Owner's behalf. Witness _____ _____ day of _____ 189	CONTRACT (No. 2). To be signed for Oxen, Sheep, Calves, and Pigs, when shipped at Owner's sole risk, at the reduced Rates of Carriage. IT IS HEREBY AGREED between the undersigned and the London and North Western Railway Company, that the animals named on the other side are to be conveyed on the land part of the journey, only upon the conditions of carriage applicable thereto, stated upon the back of the Invoice handed to the undersigned by the Company's Agent. And to be conveyed on the sea part of the journey, in consideration of the REDUCED RATE charged at the OWNER'S SOLE RISK, as stated in the conditions of carriage on back of the Invoice, applicable to the sea journey; which latter conditions are, "That the Company, in consideration of the reduced rate of freight charged, will not be accountable for any loss caused by delay or injury to Live Stock, taking place before or at Shipment, on the passage, or at, or after landing; nor for any loss of or injury to Live Stock, whether arising from, or consequent upon the dangers or accidents of the seas, rivers, harbours or navigation; or from the act of God, the Queen's enemies, pirates, restraints of princes, rulers, or people, jettison, barratry, collision, stranding, fire, improper, careless, or unskilful navigation; or from accidents connected with machinery or boilers; or from any fault, negligence, or mistake of the Master, Pilot, Officers, Seamen, or Crew of the Vessels, or other Servants of the London and North Western Railway Company. SIGNED. { _____ Owner. or _____ on Owner's behalf. Witness _____ _____ 189	DECLARATION. To be signed when Stock is Insured for amounts exceeding the statutable value. I HEREBY DECLARE that the value of the _____ delivered by me this day to the London and North Western Railway Company at _____ Station, for transmission to _____ Station is £ _____ SIGNED. { _____ Owner. or _____ on Owner's behalf. Witness _____ _____ day of _____ 189
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Under Clause 7 of the Act entitled "An Act for the better Regulation of the Traffic on Railways and Canals," 17th and 18th Vic., 1854, it is provided "That no greater damages shall be recovered for the loss of, or for any injury done to, any of such Animals beyond the sums hereinafter mentioned, that is to say:—“ For any Horse, £50; for any Neat Cattle, per head, £15; for any Sheep or Pigs, per head, £2; unless the persons sending or delivering the same to such Company shall, at the time of such delivery, have declared them to be of respectively higher value than as above-mentioned, in which case it shall be lawful for such Company to demand and receive, by way of compensation for the increased risk and care thereby occasioned, a reasonable percentage upon the excess of the value so declared above the respective sums so limited, as aforesaid, and which shall be paid in addition to the ordinary rate of charge.”

Notice is hereby given that, for HORSES, CATTLE, or other ANIMALS, the following Rates will be charged, in addition to the usual charge for conveyance, upon any excess in the declared value of such animals respectively over and above the amounts fixed by the Act as aforesaid, viz.:—For any Horse, £50; for any Neat Cattle, per head, £15; for any Sheep or Pigs, per head, £2.

If conveyed by PASSENGER TRAIN, £1 : 5s. per cent.			If conveyed by GOODS TRAIN:—		
1 to 50 Miles, at the rate of 40s. for every £100 Sterling of the declared value, beyond the amounts named above.					
51 to 100 "	"	60s.	"	"	"
101 to 150 "	"	80s.	"	"	"
151 and upwards	"	100s.	"	"	"

Example:—For a Horse of the declared value of £60, by Goods Train, the charge will be calculated on £10, which for 40 miles, or any mileage under 51 miles, will, according to the above scale, be 4s.

And Notice is hereby given, that all declarations of the value of Horses, or other Animals, where such value exceeds the above sums respectively, must be signed by the sender thereof, or by his agent, before they can be received for transmission by the Railway.

RATE No. 2.
CONDITIONS OF CARRIAGE.

The London and North Western Railway Company give Public Notice that they convey Horses, Oxen, Sheep, Calves, and Pigs, in Wagons, and by Cattle or Merchandise Trains, subject to the following conditions:—

1. That where the charge of conveyance is per Wagon, as the Owner or his Servant is required to superintend the loading of the stock, and is allowed to place as many animals in each Wagon as he considers may be conveyed with safety, they will not be responsible for loss arising in any way from the over-crowding of such Wagons, or in consequence of one animal injuring another. In no case will they be liable for injury caused by fear or restiveness of animals.
2. That the Company do not undertake to supply Cattle Wagons of any particular class or size, and the charges will be for the class and size in which the Cattle shall be actually carried.
3. That as a Drover is allowed to attend the Cattle during transit, they will allow such Drover to travel Free of Charge, upon condition that he so travel at his own risk.
4. That they do not undertake the delivery of Cattle in time for any particular Fair or Market.

That the Company will not be accountable for the number of Live Stock as entered on the Manifest, such numbers being taken on the representation of the shippers, nor for the correct selection of each Owner's Stock on landing, nor on loading into the Wagon at LIVERPOOL or HOLYHEAD Station, nor on unloading at destination.

CONDITIONS OF CARRIAGE OF LIVE STOCK, applicable to the Sea Journey only.

That the Company, in consideration of the reduced rate of freight charged, will not be accountable for any loss caused by delay, or injury to Live Stock, taking place before or at Shipment or on the passage, or at or after landing, nor for any loss of, or injury to Live Stock, whether arising from or consequent upon the dangers or accidents of the seas, rivers, harbours, or navigation, or from the act of God, the Queen's enemies, pirates, restraints of princes, rulers, or people, jettison, barratry, collision, stranding, fire, improper, careless, or unskilful navigation, or from accidents connected with machinery or boilers, or from any fault, negligence, or mistake of the master, pilot, officers, seamen, or crew of the vessel, or other servants of the London and North Western Railway Company, Owners of the vessels.

The London and North Western Railway Company, who own the vessels, will give a free passage to the Owners going, or their men sent to take charge of Live Stock, upon condition that they so travel at their own risk.

London and North Western Railway.

CATTLE DEPARTMENT.

The Owner or Shipper of Live Stock has, in all cases, the option of sending Live Stock at one or other of Two Rates of Freight (Rate No. 1 or Rate No. 2). Rate No. 1 covers Sea Risk to the amount recoverable for each Animal under the Railway and Canal Traffic Act, 1854. Rate No. 2 is a *Reduced Rate*, and, when adopted by the Owner or Shipper, the Stock are received and conveyed solely at *Owner's Risk* in connection with the *Sea part of Transit*.

[illegible]

If it is desired that any Drover or Person accompanying the Live Stock shall be allowed to travel in the same Train as the Live Stock, without paying a Fare, he must travel at his own risk, and must either sign this in token that he agrees to travel at his own risk, or he must pay Fare as a Passenger.

I agree to travel at my own risk, without paying any Fare, and accept a Free Pass subject to the following Conditions, viz. :—

This Pass is issued free by the Company, and subject to the following conditions on which it is accepted by the holder, viz.:—That it is available only for the Train by which the Stock is being conveyed.

That the holder is subject to the Bye-Laws of the Company, and he exonerates the Company from all responsibility for injury or loss to himself, howsoever occasioned, on the journey for which it is issued or used.

Witness _____ Signed _____ Drover.

Witness _____ *Signed* _____ *Drover.* _____

Witness _____ Signed _____ Drover.

DROVER'S PASS.

This Pass is issued free by the Company, and subject to the following conditions, on which it is accepted by the holder, viz.:—That it is available only for the Train by which the Stock is being conveyed.

That the holder is subject to the Bye-Laws of the Company, and he exonerates the Company from all responsibility for injury or loss to himself, howsoever occasioned, on the journey for which it is issued or used.

Pass _____ in charge of above Stock.

Pass _____ *Do.*

Pass _____ *Do.*

From _____ to _____

Agent, London & North Western Railway.

GLASGOW.

Irish Ports.	Cattle.	Sheep.	Swine.
Ballina - - - -	86	103	22
Belfast - - - -	18,720	2,271	135
Coleraine - - - -	3,650	6,298	279
Cork - - - - -	14,322	795	949
Drogheda - - - -	6,789	—	88
Dublin - - - - -	56,349	3,978	2,794
Larne - - - - -	24	74	153
Limerick - - - -	7,057	1,698	3
Londonderry - - -	47,443	12,213	4,798
Portrush - - - -	848	1,658	323
Sligo - - - - -	4,569	3,607	3,676
Waterford - - - -	4,000	273	259
Westport - - - -	80	382	8
Total - - - - -	163,937	33,350	13,487

GREENOCK.

Irish Ports.	Cattle.	Sheep.	Swine.
Belfast - - - - -	5	8	3

STRANRAER.

Irish Ports.	Cattle.	Sheep.	Swine.
Larne - - - - -	29,928	2,052	6,625

APPENDIX No. 10.

LETTER from Mr. J. A. KIRKWOOD supplementing his EVIDENCE as to DAMAGE done to IRISH CATTLE in 'Transit.

521, New City Road, Glasgow.

DEAR SIR,

April 14, 1894.

WHEN giving evidence before the Select Committee on the Transit of Irish Cattle I was not in a position to illustrate the bad effect on cattle trampled by their companions in transit. On my return, however, to Glasgow on 5th instant, I found in the Dead Meat Market a very bad case of a carcass bruised in transit. I had it and a perfect carcass photographed, and I have much pleasure in sending you herewith eight copies of the photo for the use of the members of

your Committee. A strong glass will enable you to see the serious nature of the bruises. The carcass on the left of the photo is that of a damaged bullock which cost 21*l.* 15*s.* before the injury was apparent. The carcass itself had to be sold on account of the damage for 13*l.* 15*s.* 11*d.*, about 56 lbs. of bruised meat having had to be taken off in dressing it for sale. The carcass on the right is that of an uninjured bullock which cost 21*l.* 5*s.* This carcass was the same weight as the damaged carcass after being dressed, and realised 17*l.* 17*s.*, making a difference of 4*l.* 11*s.* as loss on the damaged carcass owing to the injury.

Yours faithfully,

JAMES A. KIRKWOOD.

Sir Charles Cameron, Bart., M.P.

APPENDIX No. 11.

LETTER from Mr. F. HARRISON supplementing his EVIDENCE, and enclosing SPECIMEN CONTRACT NOTE.

London and North Western Railway,
General Manager's Office,
Euston Station, London, N.W.,

DEAR SIR,

May 9, 1894.

WHEN I appeared before the Departmental Committee on the Transit of Animals on the 1st instant, you will recollect that there were certain matters with regard to which I undertook to furnish particulars to supplement my evidence, and this I am now in a position to do.

First, as to the feeding of the animals. I have ascertained that during the six months ending 31st March 1894, the number of animals foddered at North Wall, Greenore, and Holyhead respectively was as under:—

---	At North Wall.	At Greenore.	At Holyhead.	Total.
Cattle - - -	6,397	398	10,458	17,253
Sheep - - -	8,959	—	20,511	29,470
Pigs - - -	74,745	168	22,262	97,175
Horses - - -	188	96	1,437	1,721

If these figures are compared with those given in my evidence in chief as to the number of animals landed at Holyhead during the same period, the net result will be to show that about 55½ per cent. of the cattle were fed either at Northwall or Greenore, or at Holyhead; about 53½ per cent. of the sheep, 86 per cent. of the pigs, and 76 per cent. of the horses.

As to the alleged steepness of the gangway at North Wall leading from the quay to the main decks of the vessels, I find that at high water a short gangway is

used, 10 feet 6 inches in length, and this makes an angle of 7½ degrees from the quay to the level of the deck. At low water, a long gangway is used, 30 feet in length, and this gives an angle of 10 degrees. Of course at other states of the tide than extreme high and low water, the gangway would be somewhere between 7½ and 10 degrees.

As to the inclination of the gangway leading from the main deck to the lower decks on the Company's vessels, I enclose a tracing, marked A, which shows this gangway in detail.

I also enclose four plans, showing respectively the main decks and lower decks of two of the Company's steamers, viz., the "Eleanor" and the "Olga," one being a paddle-ship, and the other a screw-vessel. These plans indicate clearly the arrangement of the cattle-fittings on both decks, and I may take this occasion to remark that I find I was led into an error when, speaking from memory, I stated to the Committee that on all the Company's boats there is an alley-way between the pens. As a matter of fact, this alley-way only exists on the Greenore boats, and not on those which go to and from North Wall, but I understand that the expert bullockmen who are employed find no difficulty whatever in passing along the bulkheads in order to reach any animals which may get down. To provide an alley-way on each deck would mean to sacrifice a quarter of the carrying capacity of the vessel, and we have not hitherto thought it necessary to make this sacrifice in order to meet a difficulty which has not arisen in actual practice.

I enclose a tracing showing the elevation of the pens which would be similar in all the boats.

I was asked what proportion of live stock it is the practice to carry at Company's sea risk, and what proportion at the owner's risk. It may be taken that a small proportion of cattle are carried at the Company's risk, and the bulk of the horses, but very few sheep and pigs. Out of the number of animals given in my

evidence as landed at Holyhead during the six months ending 31st March 1894, only the following were carried at the Company's risk rate:—

Cattle	-	-	3,502
Sheep	-	-	1,384
Pigs	-	-	256
Horses	-	-	2,197

the remainder being carried at the owner's risk rate.

I enclose, as requested, specimens of the contracts Nos. 1 and 2 respectively. No. 1 being the Company's risk and No. 2 the owner's risk.

I also send a bundle of specimens of the reports made by the cattle foreman and quartermaster of the vessel respectively, of the result of their inspection of live stock on the arrival of the vessels. Perhaps you will kindly cause these to be returned to me when done with.

Yours faithfully,

B. G. Haygarth Brown, Esq., F. HARRISON.
Board of Agriculture,
4, Whitehall Place, S.W.

APPENDIX No. 12.

ROYAL DUBLIN SOCIETY.

COPY of the RESOLUTION of the COMMITTEE OF AGRICULTURE, dated 19th April, 1894.

Having seen Mr. Rooth's portable cattle fittings, for the transmission of cattle by cross-channel trade, we

highly approve of same, and recommend that these or similar fittings be applied to vessels engaged in before-mentioned traffic—and that a copy of this resolution be sent to the Departmental Committee now sitting on Irish Cattle Transit.

APPENDIX No. 13.

LETTER from Mr. F. HARRISON supplementing his EVIDENCE.

General Manager's Office,
Euston Station, London, N.W.,
May 22, 1894.

DEAR SIR,

In reply to your letter dated 19th instant. I am sorry to say that the additional information for which you are asking me as to the number of animals killed and injured in transit is such as it is entirely out of my power to furnish. The quartermasters' report merely records that out of a given number of animals landed on a certain voyage, one or more, as the case may be, was found to be killed or injured on arrival. There is nothing whatever to identify the particular beast or the consignment to which it belongs, and there is no means of tracing whether the animal was

carried at owner's risk rate, or otherwise. Seeing that, as I informed you in my letter of the 9th May, a very small per-centage of live stock is carried at the Company's risk rate it follows that only a very small per-centage of those killed and injured can have been carried at that rate, but in my opinion nothing turns upon this, because all the animals are subject to the same conditions as to accommodation, good and bad weather, &c., and as to the bullock men employed they know nothing of the rates at which particular consignments are carried and of course treat all the animals alike, and with the same amount of care and attention.

Yours faithfully,

pro. F. HARRISON, G.T.
E. G. Haygarth Brown, Esq.,
4, Whitehall Place, S.W.

APPENDIX No. 14.

(Handed in by Mr. Booth, a Member of the Committee.)

EXTRACT from LETTER from Mr. THOMAS BICKERTON.

YOUR report to hand, and I write to say that early in October 1893, I crossed from Cork to Liverpool, and was horrified at the state of matters existing *re* Canal Traffic. On this journey some four or five calves were born. Just before reaching Liverpool, hearing that a cow was dying I went down to look at her. A cattle drover told me "the cow was dying because of a cross-birth, and that if it did not die before

"reaching Liverpool it would be killed." Asked if there was no one who could assist the poor beast, he replied "No, and it did not matter as all the beasts were insured." He told me it was a common practice to send cows from Ireland on the point of calving, "as then the milk dealers knew they were not cheated." I can imagine no greater cruelty than to send animals a sea journey in this condition.

Yours, &c.

THOMAS H. BICKERTON.

Jesse W. Molum, Esq.

APPENDIX No. 15.

(Handed in by Mr. Booth, a Member of the Committee.)

RECOMMENDATION for CERTAIN AMENDMENTS in the CRUELTY TO ANIMALS ACTS, bearing on the TRANSIT of LIVE STOCK from IRELAND to GREAT BRITAIN.

12 & 13 Vict., cap. 92, section 2, to insert the words "or permit" after the word "procure."

12 & 13 Vict., cap. 92, section 12, to insert the words "or vessel" after the word "vehicle."

12 & 13 Vict., cap. 92, section 22, to insert after the words "Driver of any cart, waggon, van, or other vehicle" the words "or captain or mate of any vessel"; and after the words "owner of such cart, waggon, van, or other vehicle" the words "or vessel."

13 & 14 Vict. (Scotland), cap. 92, to amend the preamble by deleting the word "*wanton*" before "cruelty," so that the Scotch Act shall be in that respect in accord with the English Statute.

13 & 14 Vict. (Scotland), cap. 92, section 1, to insert the words "or permit" after the word "procure."

APPENDIX No. 16.

RETURN showing the NAMES of SHIPPING COMPANIES, and of the VESSELS owned by them, which are engaged in the TRANSIT OF CATTLE from IRELAND to GREAT BRITAIN.

Name of Company.	Name of Vessel.	Trading Ports.	Name of Company.	Name of Vessel.	Trading Ports.
Ayr Shipping Co.	Carrick	Belfast—Ayr.	Clyde Shipping Co.— <i>continued</i> .	Portland	Belfast, Cork, and Waterford.
Bacon, John & Co.	Eden Vale	Wexford—Liverpool.	"	Rathlin	"
Barrow Steam Navigation Co.	City of Belfast	Belfast—Barrow.	"	Sanda	"
"	Donegal	"	"	Skerryvore	"
"	Londonderry	"	"	Toward	"
"	Manx Queen	"	"	Tusker	"
Belfast Steamship Co.	Calorio	Belfast—Liverpool.	Drogheda Steam Packet Co.	Colleen	The vessels of the Clyde Co. sail from Ireland to Glasgow, and from thence to Dover, London, New- haven, Plymouth, and Southampton. Drogheda—Glasgow and Liverpool.
"	Dynamic	Belfast—Manchester.	"	Kathleen	
"	Magic	Belfast—Liverpool.	"	Norah	
"	Mystic	Londonderry—Liver- pool.	"	Tredagh	
"	Optic	Belfast—Liverpool.	"	Duke of Argyll	Dublin—Glasgow
"	Voltaic	Londonderry—Liver- pool.	"	Duke of Fife	"
Bristol Steam Navigation Co.	Argo	Dublin—Bristol.	"	Duke of Leinster	"
"	Clio	"	"	General Gordon	"
British and Irish Steam Packet Co.	Countess of Dublin	Dublin — Falmouth, Plymouth, South- ampton, Ports- mouth, and London.	Dublin and Glasgow Steam Packet Co.	Belfast	Dublin—Liverpool.
"	Lady H. Kinahan	The ships of this Company seldom carry cattle.	"	Express	"
"	Lady Martin		"	Blackrock	"
"	Lady Olive		"	Amphion	Newry — Ardrossan and Liverpool.
"	Lady Wodehouse		"	Bessbrook	Dundalk — Ardrossan and Liverpool.
Burns, G. & J.	Alligator	Belfast—Glasgow and Greenock.	"	"	Newry — Ardrossan and Liverpool.
"	Bear	Londonderry — Glas- gow.	"	Earl of Erne	Dundalk — Ardrossan and Liverpool.
"	Dromedary	Belfast—Glasgow and Greenock.	"	Emerald Isle	"
"	Gorilla	Belfast—Ardrossan.	"	Enterprise	"
"	Grampus	"	"	Iveagh	Newry — Ardrossan and Liverpool.
"	Grouse	Belfast—Greenock.	"	Newry	"
"	Hare	Belfast—Glasgow and Greenock.	"	Lady A. Hill	Dundrum — White- haven.
"	Hound	Belfast—Ardrossan.	"	Limerick	Waterford—Milford.
"	Mastiff	Belfast—Glasgow and Greenock.	"	Milford	"
"	Seal	Belfast—Ardrossan.	"	Pembroke	"
City of Cork Steam Packet Co.	Blarney	Cork—Bristol, Cardiff, Liverpool, Milford, Newport, Plymouth, Southampton, and London.	"	Waterford	"
"	Cormorant	"	"	"	Belfast—Whitehaven,
"	Glanmire	"	"	"	"
"	Glengarriff	"	"	"	"
"	Juno	"	"	"	"
"	Killarney	"	"	"	"
"	Lee	"	"	"	"
"	St. Finbar	"	"	"	"
"	Upupa	"	"	"	"
"	Xema	"	"	"	"
City of Dublin Steam Packet Co.	Cavan	Dublin—Liverpool.	"	"	"
"	Galway	"	"	"	"
"	Kildare	"	"	"	"
"	Leitrim	"	"	"	"
"	Longford	"	"	"	"
"	Mayo	"	"	"	"
"	Meath	"	"	"	"
"	Mullingar	"	"	"	"
"	St. Patrick	"	"	"	"
Clyde Shipping Co.	Aranmore	Belfast, Cork, Limerick, and Waterford.	"	"	"
"	Ballycotton	Belfast, Cork, and Waterford.	"	"	"
"	Clough	Belfast and Cork.	"	"	"
"	Cumbræ	Belfast, Cork, and Waterford.	"	"	"
"	Dungeness	"	"	"	"
"	Eddystone	"	"	"	"
"	Inistrahull	Belfast, Cork, Limerick, and Waterford.	"	"	"
"	Pladda	Belfast, Cork, and Waterford.	"	"	"
			Lancashire and York- shire, and London and North-Western Rail- way Companies.	Duke of Clarence	Dublin, Londonderry — Morecambe. Belfast—Fleetwood.
			"	Earl of Ulster	"
			"	Prince of Wales	"
			"	Princess of Wales	"
			Larne and Stranraer Steamboat Co.	Mona	Larne—Ayr.
			"	Princess May	Larne—Stranraer.

Name of Company	Name of Vessel.	Trading Ports.	Name of Company.	Name of Vessel.	Trading Ports.
Larne and Stranraer Steamboat Co.—(continued).	Princess Victoria -	Larne—Stranraer.	Sloan & Co. -	Avon -	Belfast—Bristol, Cardiff, Swansea, Newport.
London and North-Western Railway Co.	Anglesey -	Dublin—Holyhead.	" -	Caledonian -	Dublin—Silloth, Isle of Man.
" "	Duchess of Sutherland.	" "	" -	Medway -	Belfast—Bristol, &c. (as above).
" "	Earl Spencer -	Greenore—Holyhead.	" -	Severn -	" "
" "	Edith -	Dublin—Holyhead.	" -	Solway -	" "
" "	Eleanor -	Greenore—Holyhead.	" -	Tweed -	" "
" "	Irene -	Dublin—Holyhead.	" -	Yarrow -	Belfast—Silloth, Isle of Man.
" "	Isabella -	Greenore—Holyhead.	Tedcastle Line -	Adela -	Dublin—Liverpool.
" "	North Wall -	Dublin—Holyhead.	" -	Eblana -	" "
" "	Olga -	" "	" -	Magnet -	" "
Lord Leitrim -	Melmore -	Portrush—Glasgow.	" -	Thistle -	" "
" -	Rossgull -	" "	Waterford Steamship Co.	Comeragh -	Waterford -- Bristol, Liverpool, Milford.
Sligo Steam Navigation Co.	Liverpool -	Sligo—Liverpool.	" "	Dunbrody -	" "
" "	Sligo -	" "	" "	Lara -	" "
Steel and Benny Steamship Co.	Albatross -	Londonderry, Moville Glasgow.	" "	Menapia -	Wexford—Bristol.
" "	Sampson -	" "	" "	Reginald -	Waterford -- Bristol Liverpool, Milford.

RETURN showing the NAMES of VESSELS (alphabetically arranged) engaged in the TRANSIT OF CATTLE from IRELAND to GREAT BRITAIN, and also the NAMES of the OWNERS of VESSELS and the PORTS in IRELAND from which they trade.

Name of Vessel.	Name of Owner.	Port from which Vessel Trades.	Name of Vessel.	Name of Owner.	Port from which Vessel Trades.
Adela -	Tedcastle & Co. -	Dublin.	Duke of Argyll -	Dublin and Glasgow Steam Packet Co.	Dublin.
Albatross -	Steel and Benny Steamship Co.	Londonderry.	Duke of Clarence -	Lancashire and Yorkshire, and London and North-Western Railway Companies.	Belfast.
Alligator -	G. & J. Burns -	Belfast.	Duke of Fife -	Dublin and Glasgow Steam Packet Co.	Dublin.
Amphion -	Dundalk and Newry Steam Packet Co.	Newry.	Duke of Leinster -	" "	"
Anglesey -	London and North-Western Railway Co.	Dublin.	Dunbrody -	Waterford Steamship Co.	Waterford.
Argo -	Bristol Steam Navigation Co.	"	Dungeness -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Arranmore -	Clyde Shipping Co.	Belfast, Limerick, Cork, Waterford.	Dynamic -	Belfast Steamship Co. -	Belfast.
Avon -	Sloan & Co. -	Belfast.	Earl of Erne -	Dundalk and Newry Steamship Co.	Dundalk.
Azalea. -	Laird & Co. -	Dublin, Londonderry, Sligo.	Earl Spencer -	London and North-Western Railway Co.	Greenore.
Ballycotton -	Clyde Shipping Co. -	Belfast, Cork, Waterford.	Earl of Ulster -	Lancashire and Yorkshire, and London and North-Western Railway Companies.	Belfast.
Bear -	G. & J. Burns -	Londonderry.	Eblana -	Tedcastle & Co.	Dublin.
Belfast -	Dublin and Liverpool Steam Packet Co.	Dublin.	Eddystone -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Bessbrook -	Dundalk and Newry Steam Packet Co.	Dundalk and Newry.	Edith -	London and North-Western Railway Co.	Dublin.
Blackrock -	Dublin and Mersey Steam Packet Co.	Dublin.	Eden Vale -	John Bacon & Co. -	Wexford.
Blarney -	City of Cork Steam Packet Co.	Cork.	Eleanor -	London and North-Western Railway Co.	Greenore.
Brier -	Laird & Co. -	Dublin, Londonderry, Sligo.	Ellen Vanin -	Isle of Man Steam Packet Co.	Belfast.
Caledonian -	Sloan & Co. -	Dublin.	Elm -	Laird & Co. -	Ballina, Coleraine, Larne, Londonderry, Portrush, Sligo, and Westport.
Caloris -	Belfast Steamship Co. -	Belfast.	Emerald Isle -	Dundalk and Newry Steam Packet Co.	Dundalk.
Carrick -	Ayr Steamship Co. -	"	Enterprise -	" "	"
Caran -	City of Dublin Steam Packet Co.	Dublin.	Express -	Dublin and Liverpool Screw Steam Packet Co.	Dublin.
Cedar -	Laird & Co. -	Dublin, Londonderry, Sligo.	Fenella -	Isle of Man Steam Packet Co.	Belfast.
City of Belfast -	Barrow Steam Navigation Co.	Belfast.	Fern -	Laird & Co. -	Ballina, Coleraine, Sligo, Westport.
Clio -	Bristol Steam Navigation Co.	Dublin.	Galway -	City of Dublin Steam Packet Co.	Dublin.
Clough -	Clyde Shipping Co. -	Belfast, Cork.	Gardenia -	Laird & Co. -	Ballina, Coleraine, Londonderry, Sligo, Westport.
Colleen -	Drogheda Steam Packet Co.	Drogheda.	General Gordon -	Dublin and Glasgow Steam Packet Co.	Dublin.
Comeragh -	Waterford Steamship Co.	Waterford.	Glanmire -	Cork Steam Packet Co.	Cork.
Countess of Dublin -	British and Irish Steam Packet Co.	Dublin.	Glengarriff -	" "	"
Cumbræ -	Clyde Shipping Co. -	Belfast, Cork, Waterford.			
Donegal -	Barrow Steam Navigation Co.	Belfast.			
Dromedary -	G. & J. Burns -	"			
Duchess of Sutherland.	London and North-Western Railway Co.	Dublin.			

Name of Vessel.	Name of Owner.	Port from which Vessel Trades.	Name of Vessel.	Name of Owner.	Port from which Vessel Trades.
Gorilla -	G. & J. Burns -	Belfast.	Nora -	Drogheda Steam Packet Co.	Drogheda.
Grampus -	" -	"	Northwall -	London and North-Western Railway Co.	Dublin.
Grouse -	" -	"	Newry -	Dundalk and Newry Steam Packet Co.	Newry.
Hare -	G. & J. Burns -	Belfast.	Olga -	London and North-Western Railway Co.	Dublin.
Holly (occasionally).	Laird & Co. -	Dublin.	Olive -	Laird & Co. -	Dublin and Londonderry.
Hound -	G. & J. Burns -	Belfast.	Optic -	Belfast Steamship Co. -	Belfast.
Inistrahull -	Clyde Shipping Co. -	Belfast, Cork, Limerick, Waterford.	Pembroke -	Great Western Railway Co.	Waterford.
Irene -	London and North-Western Railway Co.	"	Peveril -	Isle of Man Steam Packet Co.	Belfast.
Isabella -	" -	Greenore.	Pladda -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Iveagh -	Dundalk and Newry Steam Packet Co.	Newry.	Portland -	" -	"
Ivy -	Laird & Co. -	Coleraine, Larne, Londonderry, Sligo, Westport.	Princess May -	Larne and Stranraer Steamboat Co.	Larne.
Juno -	Cork Steam Packet Co.	Cork.	Prince of Wales -	Lancashire and Yorkshire, and London and North-Western Railway Companies.	Belfast.
Kathleen -	Drogheda Steam Packet Co.	Drogheda.	Princess of Wales -	" -	"
Kildare -	City of Dublin Steam Packet Co.	Dublin.	Princess Victoria -	Larne and Stranraer Steamboat Co.	Larne.
Killarney -	Cork Steam Packet Co.	Cork.	Rathlin -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Lady A. Hill -	East Downshire Steamship Co.	Dundrum.	Reginald -	Waterford Steamship Co.	Waterford.
Lady Martin -	British and Irish Steam Packet Co.	Dublin.	Rossgull -	Lord Leitrim -	Portrush.
Lady H. Kinahan -	" -	"	Sauda -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Lady Olive -	" -	"	Sampson -	Steel and Benny Steamship Co.	Londonderry.
Lady Wodehouse -	" -	"	Seal -	Burns & Co. -	Belfast.
Lara -	Waterford Steamship Co.	Waterford.	Severn -	Sloan & Co. -	"
Lee -	Cork Steam Packet Co.	Cork.	Shamrock -	Laird & Co. -	Dublin, Londonderry.
Leitrim -	City of Dublin Steam Packet Co.	Dublin.	Skerryvore -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Limerick -	Great Western Railway Co.	Waterford.	Sligo -	Sligo Steam Navigation Co.	Sligo.
Liverpool -	Sligo Steam Navigation Co.	Sligo.	Solway -	Sloan & Co. -	Belfast.
Llwellyn -	Hinde & Co. -	Belfast.	St. Finbar -	Cork Steam Packet Co.	Cork.
Londonderry -	Barrow Steam Navigation Co.	"	St. Patrick -	City of Dublin Steam Packet Co.	Dublin.
Longford -	City of Dublin Steam Packet Co.	Dublin.	Thistle -	Laird & Co. -	Dublin, Londonderry, Sligo.
Magie -	Belfast Steamship Co. -	Belfast.	Thistle -	Tedcastle & Co. -	Dublin.
Magnet -	Tedcastle & Co. -	Dublin.	Toward -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Manx Queen -	Barrow Steam Navigation Co.	Belfast.	Tredagh -	Drogheda Steam Packet Co.	Drogheda.
Mastiff -	G. & J. Burns -	"	Tusker -	Clyde Shipping Co. -	Belfast, Cork, Waterford.
Mayo -	City of Dublin Steam Packet Co.	Dublin.	Tweed -	Sloan & Co. -	Belfast.
Meath -	" -	"	Upupa -	Cork Steam Packet Co.	Cork.
Medway -	Sloan & Co. -	Belfast.	Voltaic -	Belfast Steamship Co. -	Londonderry.
Melmore -	Lord Leitrim -	Portrush.	Waterford -	Great Western Railway Co.	Waterford.
Menapia -	Waterford Steamship Co.	Wexford.	Xema -	Cork Steam Packet Co.	"
Milford -	Great Western Railway Co.	Waterford.	Yarrow -	Sloan & Co. -	Dublin.
Minnie Hinde -	Hinde & Co. -	Belfast.			
Mona -	Larne and Stranraer Steamboat Co.	Larne.			
Mullingar -	City of Dublin Steam Packet Co.	Dublin.			
Mystic -	Belfast Steamship Co.	Londonderry.			

APPENDIX No. 17.

(Handed in by Mr. BOOTH, a Member of the Committee.)

REPORT of the ROYAL SOCIETY for the PREVENTION of CRUELTY to ANIMALS, Liverpool Branch.

TRANSIT of CATTLE from IRELAND to GREAT BRITAIN.

A sub-committee was appointed November 29th last to inquire into and report upon the conduct of the above traffic, in order to become possessed of the facts preparatory to adopting measures leading to a diminution of the injuries and suffering known to be incident to it.

The sub-committee was composed of five of the Liverpool committee of this society and a prominent member of the Liverpool Butchers' Association.

In their inquiry they have not gone outside of the trade coming to Liverpool, where about 40 per cent. of all Irish cattle are received, the remainder coming chiefly to Glasgow and other northern ports, to Holyhead, Milford, and the Bristol Channel.

The report was adopted on January 26th, instant.

The landings of live stock at Liverpool from Ireland amount annually to about 250,000 cattle, 400,000 sheep

and lambs, and 150,000 pigs; the weekly arrivals varying according to the season of the year, and being heavy in the autumn and early winter and light in the spring and early summer.

In the former period the week's landings of cattle rise to 10,000 head, and in the latter fall to less than a fourth of that quantity.

Of the cattle received from Ireland, about a third are "store" cattle, and two-thirds are so-called "fat" cattle for slaughter.

The boats to Liverpool come from Dublin, Drogheda, Dundalk, Belfast, Londonderry, Waterford, Cork, &c.; the largest shipments being from Dublin, and of these the greater part are carried by the steamers of the City of Dublin Company.

The animals are landed either at the north end of Prince's Landing Stage, where Bridges Nos. 6 and 7 are appropriated to them, or at the companies' berths at Clarence, Collingwood, Nelson, and other docks, the place of landing being partly governed by the time of tide; but the greater part probably come to the landing stage.

The largest shipments are made from Irish ports at the end of the week, so as to be landed at Liverpool on Sunday for the Liverpool cattle market on Monday, and for despatch to Salford and other country markets, Wakefield, Newcastle, &c. Not far short of half the week's supply will thus sometimes arrive here on Sunday morning, in as many as 12 to 15 steamers, requiring for the prompt discharge and disposal of the live stock after landing larger and more convenient accommodation than is provided by the Liverpool Dock Board. (The Travelling Inspector's Report, 1889, Department of Agriculture, on this point, is referred to below.)

On the steamer being berthed, men in the employ of the steamboat company go down into the holds and untie the head ropes and commence driving the beasts up, taking down the shifting boards as they do so.

The deck of the landing stage is generally slippery, and gives no proper foothold for cattle. The beasts continually fall on reaching it. The dock board being responsible for providing suitable landing places, the north end of the stage should either be specially decked or sand and ashes be provided and laid down by the dock board servants.

At low spring tides the bridges are very steep, and as the battens are apt to be much worn, as is the case at present, the animals are continually falling in a pitiable manner. The dock board should be requested to renew those footholds on Bridges Nos. 6 and 7 more frequently.

On the cattle reaching the pier-head, the cattle drovers in the employ of the dealers and salesmen here sort out the beasts into their own lots, and drive them off immediately, as soon as complete, whether to the railway cattle stations, Lancashire and Yorkshire, Blackstone Street, London and North-Western at Bank Hall, Midland at Sandhills Lane, &c., or to the Stanley Market, Prescott Road, and various lairages and pasture before the market.

On the Prince's Pier-head is one drinking trough, about 25 feet long. A comparatively small proportion of the animals have the opportunity of access to the water trough on pier-head, only those, that is to say, which happen to be near it while the lots are being sorted up. There should be not less than four of such troughs.

The route to the Stanley Market is a circuitous one, through the north end of the town and below Everton, except that in the early morning the police regulations allow cattle to be driven on the direct road through Dale Street to London Road.

At the railway stations there are water troughs along and within the sheds, and in some of the pens where the cattle are collected until the trains can be filled up and despatched.

The railways generally provide a feeding trough in the covered cattle shed, at which a limited number can feed at one time, supposing hay to be attainable and provided there. It is the practice at the railway stations here to keep a store of hay, obtainable on demand, in compliance with the regulations under the Act. So little attention, however, is given to this provision that the proportion of animals fed previous to being trucked on the trains is exceedingly small.

At the Clarence Dock, which is the chief cattle landing dock, the City of Dublin Company, the Waterford Company, and others, being berthed there, the cattle, as driven out of the boats, are sorted between the shed and the dock boundary wall, an inconvenient and crowded place, which appears unimproved since

the opening of the Clarence Dock in 1830. The roadway is, indeed, much more impeded than originally, since the double line of rails was laid upon it, and crowding of this kind will always increase the occasions for rough usage. The water trough provided here is placed along the wall separating the Clarence Dock from Clarence Graving Docks, in a position where (except landed at north side of dock, which is unusual) few of the beasts, probably not one in 100, have the opportunity of access to it.*

The distances from Prince's Landing Stage to railway stations are: to Lancashire and Yorkshire, 1½ miles; to London and North-Western and Midland, 3 and 2½ miles; and to Stanley Market, by the route traversed, 5 miles. From the Clarence Dock it is half a mile less than these. For pigs going direct to the Abattoir it is 3 miles by a circuitous route laid down by the police.

No food or water are provided on the boats from any port to Liverpool, so far as our investigation extends.

At the Irish ports the cattle are received in the yards provided at the loading places of the steamboat companies.

They come in chiefly by railway, and are put on board after being examined and branded in the yards by the inspector of the Irish Privy Council Veterinary Department.

There are water troughs in these yards, but no provision of food is usually visible. It is very unusual for the beasts to get any food while waiting shipment, and it is not unusual for them to be shipped without having the opportunity of watering, in the case, e.g., of such as come down near time of sailing, or of the yards being crowded.

There is good evidence that cattle may be seen to go on board at Dublin already in a partly exhausted condition.†

At low tide the gangways at Dublin from the quay to the boat are reported to be at an excessive incline, such as the beasts will not go down without much forcing. The attention of the Dublin authorities should be directed to this.

The metropolitan police or the Irish constabulary, as the case may be, are understood to watch the loading of cattle-boats, in order to report ill-usage or overcrowding; but observation shows that, even when on duty on the quay, they are not accustomed to pass the gangway and go on board, and it is on board the boat that the ill-usage and overcrowding, if any, are to be seen.

The cattle leave home largely on the afternoon or evening before the day of shipment. The transit is first by road to the nearest railway, then by cattle train to the port; and next, after examination, branding, and loading, by the cross-channel boat; and, after discharge, by road or rail to final destination. They have thus frequently gone 20 to 24 hours without food at the time they are driven on the boats, when the longest and most trying part of the journey is about to commence.

With small exception, they thus go without food until they reach their destination, whether that be at Manchester and other Lancashire and Yorkshire towns or even greater distances, to which they are despatched by rail, or at the Stanley Market, Liverpool, usually the afternoon and evening of the day of arrival at Liverpool.

The trains leave Liverpool generally from noon to 3 or 4 o'clock p.m., and cattle are carried to the Midland towns, and as far as Norwich. There is no assurance

* NOTE.—The Chief Travelling Inspector's Report says that while at many of the ports arrangements of embarking cattle are very good, "at the three ports where the largest trade is carried on—Dublin, Liverpool, and Glasgow—the existing arrangements cannot be considered satisfactory. At Liverpool the defects are, first, at the Prince's Landing Stage and Nelson Pier the gangways are sometimes so steep as to cause great distress to the animals mounting them, and, secondly, they are landed and sorted among vans and goods drays. Some place near where the animals are landed should be set apart for the sorting and, if possible, the resting of the animals, the shipping companies and dock authorities providing no places for the reception of animals, although the annual importation at this port is over 700,000 head. The arrangements for debarkation and the reception pens at Fleetwood and Barrow are excellent, which Liverpool might with great advantage emulate;" and one of the general results of the inquiry is stated as follows:—"That the existing arrangements for the reception of Irish cattle at Liverpool are defective, and that the local authorities might properly be invited to consider improvements."

† NOTE.—The Animals (Ireland) Order provides, part iv., chap. 22, for a supply of water at loading and landing places, to be supplied gratuitously, on request of any person in charge of animals, and the Privy Council Order, under C.D. Animals Act: "At every place where animals are landed from vessels, provision shall be made to the satisfaction of the Privy Council for the speedy unshipment of animals, and for a supply of food for them, and the food shall be supplied there, on request of any person having charge of animals, at such price as the P.C. may approve." The object sought in this order is not practically attained.

even of such having any time provided for feeding (the only chance is at the railway stations, owing to the absence of reception lairs at Liverpool docks, already referred to); and the period without food may be thus extended to the third day, or over 60 hours.

The Irish cattle traffic as conducted, therefore, involves the keeping of the animals without food habitually for as much as 36 to 48 hours, quite commonly, it is believed, for the longer time; and occasionally even this period is exceeded; as well as largely without water for periods much exceeding 24 hours.

The time of sea passage, including time of loading, varies from an average of 14 hours from Dublin and Drogheda to 24 hours from Cork in fair weather, and in bad weather, or in case of any accidents, it is always liable to be extended.

The time of discharge, under normal conditions, varies from one to five hours after time of arrival, according to delay in getting berthed; and in case of there being injured cattle to discharge, the delay is further increased, as it was increased in the recent case of City of Dublin Company's steamer "Mayo" to 20 hours.

The attention of the committee was arrested at a very early stage by this question of how food and water are supplied in the long transit involved in the trade, with the startling result now stated. The requirements in this respect, under the Act of 1878, on transit of cattle by railway in Great Britain, set a limit of 24 hours. Inspector Luya, Liverpool Corporation Inspector of Meat, in his evidence in the "Mayo" case, states that beyond that limit there is acute suffering to cattle, and it is believed that all authorities are in agreement on this point.

On board the boats cattle are carried in the lower hold, in the 'tween decks and on the main deck, and sheep are carried on the upper or bridge deck also. The head room is 6 ft. to 6 ft 6 in. The slanting gangways, by the hatches, are usually on an incline of 1 in 24. Such an incline requires a frequent renewal of the worn battens, besides sand or ashes. A boat of average size carries from 400 to 500 head of large cattle, hold and two decks, when full.

The rule is to head-rope the horned cattle, and in theory they stand headed one way in the pen, but this rule is not followed in practice, nor are they all head-rope.*

There is want of supervision and control in some of the lines in this, as in much else in the conduct of this trade. The cattle are hurried below, and often stowed, apparently, so as best to save time and trouble. No alley-way or space for passing fore and aft between the pens is allowed, and a man to reach the cattle has to climb along the partition boards or over the backs of the cattle in a height from deck to deck of 6 ft. 6 in.

The pens are formed to contain from seven to 10 beasts, the partitions being 3-inch boards let into grooves attached to the stanchions and to side of vessel. There are two boards, upper and lower. The amount of stability of these shifting boards depends on their length unsupported, on the construction of the grooves and stanchions, whether wood or iron, and on the boards being renewed before the ends become rounded with wear.

The size of pens allowed in Privy Council of Ireland Order is 15 ft. by 9 ft. In the Atlantic trade it is 10 feet by 8 feet.†

The footholds are cleats or battens nailed to the deck, fore and aft, a suitable space apart. These are effectual when the beasts remain tied and stand athwart-ships, but not otherwise. For such cattle as are loose they are nearly useless. In the Atlantic cattle-ships the cleats are generally fitted athwart-ships as well as fore and aft.

The ventilation varies considerably in different lines, but is often far from being sufficient, and is apt to be very imperfect, especially when the wind is aft. Great suffering from partial suffocation will ensue, and there have been numerous instances of blinding from ammonia. The improvements found in the best fitted boats should be required in all, and the appliances

resorted to in the Atlantic boats should be made use of.*

Fans for driving air, or a system of compressed air, are said to be used on some of the more recently fitted Irish cattle-boats.

The fittings on the boats are subject to the periodical inspection of surveyors of the Board of Trade. They vary in the different lines, the better arranged showing much superiority over others on many points for the better care of the animals; but in the majority, from the size of the pens, the unsupported length of shifting boards, and the character of their fastenings, their strength is insufficient, as is proved by repeated experience, to stand against the pressure they will be exposed to when the vessel takes a heavy lurch in a high sea. And as it is found to be the usual practice of some, at any rate, of the companies to despatch the cattle-boats in all weathers, even in the height of a gale, it would be a reasonable provision that the fittings should be required to be of the stability necessary to withstand the exceptional consequences of such weather.

To reduce the length of the pens, and the consequent number of beasts allowed in a pen, and to require greater strength in the shifting boards and their fastenings than such as now appear to pass the inspectors of the department, appear to be necessary measures.

This trade is conducted in the main on Irish account, the cattle being consigned here for sale, or in the hands of their owners bringing them for sale. They come forward chiefly at owners' risk un-insured, and largely in small lots, such as cannot afford any attendant. The companies generally make a "through rate" to include risk of total loss. This may be optional, the shipping note being marked as "owners' risk" or "company's risk," according to the rate taken, but the practice of the different companies appears to vary.

Probably owing to the careless custom of the trade, and possibly from want of facilities offered by the companies for the accommodation of cattlemen, the men sent over with the cattle are too few even for the requirements of ordinary weather; so that there are found at times no more than two men in charge of cattle numbering 400 or 500 (the two ends are separated in a paddle-boat), and may be so in a screw-boat, each end consisting of lower hold, 'tween deck, and main deck), and these two have to watch six divisions of a crowded boat. In rough weather both great suffering and continual injury occur from neglect due to this cause.†

The men employed to cross with cattle are generally of a very rough and careless class. The work is irregular, and tends to brutalise; and, although there are many exceptions who do their utmost in a very hard and trying business, much reform in this respect is needed.

The proportion of cattle arriving from Ireland in a blemished and injured condition, such as to affect the appearance and value of the meat, is very large, and is stated on good authority to be not less than a tenth, all due to neglect and carelessness in transit. This statement implies a large and widespread amount of suffering, in addition to that entailed by the inhumanity of the trade as to food and water. And the loss of value on the year's trade to Great Britain from this cause, and capable of being saved or largely reduced by different methods and revised regulations is estimated, by good authorities at not less than 500,000*l.* a year.

The committee has not inquired particularly into the cruelty due to drovers' sticks. There is undoubtedly much persuasion required in the course of a transit involving loading into cattle trucks and passing down and up steep gangways and into crowded holds; and, in the absence of strict supervision, ill-usage in these circumstances is inevitable. Observation at the landing

* NOTE.—The Chief Travelling Inspector's Report, 1889, says on this head: "To those who have visited the holds of vessels when fully loaded with cattle there can be no doubt that sufferings of the poor animals during the journey must be very severe," and refers to those which may fall "owing to fatigue, or perhaps overcome by the hot, foul, and sickening atmosphere."

† NOTE.—The captain employed by the committee as travelling inspector concludes his detailed notes as follows:—"From what I have seen relative to the safety of carrying cattle across Channel, they should be fed previous to going on board from the yard or on board steamer; and most certainly more men are required to look after them during the passage across. How is it possible, or how can anyone expect, one man or two to look after the number of cattle these steamers often carry, especially in rough weather, or even in ordinary weather, when the cattle get loose from their head ropes, and others that have not been fast are moving about and get turned in opposite directions. Some may lie down, others fall down and get trampled on and injure each other with their horns. This may be going on in two or three holds, and the man in charge away at the other end of the steamer. I think this, and the weak state that many of them must be in when put on board steamer, causes the injury and loss of many cattle."

* NOTE.—"Store" cattle appear to be largely stowed loose in the pen often at owner's request, but they should then be carried only in smooth weather.

† NOTE.—The Privy Council of Ireland Animals (Ireland) Order, Part iv., chap. 21, transit by water, provides that every place used for animals on board a vessel shall be divided into pens by substantial divisions, that the floor of each pen shall, to prevent slipping, be strewn with a proper quantity of litter or sand, or other proper substance, or be fitted with battens or other proper footholds.

What is "substantial" and what are "proper" is not defined; and so, presumably, left to the judgment of the company and the inspector.

and driving of cattle in Liverpool shows that where the number of men and boys with drovers' sticks in this business is so great as in Liverpool, the animals receive innumerable unnecessary blows, including much of cruel blows on head and nose. At the loading of the boats at Dublin there is evidence of frequent and probably habitual tail-twisting. This subject of ill-usage by drovers is fully referred to in the Agricultural Department Travelling Inspector's Report, 1889, and much of the injury is there attributed to the excessive and unnecessary beating. The Veterinary Department, Privy Council Office, Dublin, professes to inspect shipment of cattle on the boats to prevent ill-usage, but observation does not detect their officers being on hand except in the yards, nor is it probable that the officers of the Dublin Society for the Prevention of Cruelty to Animals can be in attendance except from time to time. It is impossible to believe, however, that tail-twisting might not be suppressed by some convictions. And the steamboat companies can enforce orders on their employees if they choose to issue them, and, where this is not done, there can be no excuse for not doing so.

The cross-channel rate for cattle varies according to the different lines and distances, but the rate by the best boats from Dublin and Drogheda to Liverpool appears to be about 8s. per head of cattle. The paddle-boats are understood to command a preference over screw-boats owing to their greater steadiness or freedom from rolling. Screw-steamers are no doubt constructed with bilge keels and other appliances so as to be suitable for carrying live stock, but there is undoubted cruelty in loading with cattle a vessel which, from her construction or from carrying her load too high, rolls unnecessarily in a sea-way. And it would be reasonable that only vessels specially built for the purpose, on understood principles, should be certified for the conveyance of cattle.

While there are many details in the conduct of the cattle transit from Ireland that demand attention and are capable of great improvement in the diminution of suffering and injury, as the committee believe to be shown in the foregoing report, there are three subjects to which they believe it is necessary that public attention should be especially directed, namely—

First.—To the fact that as the trade is worked the animals go without food, and often water also, for periods far exceeding the limit imposed under section 33 of the C. D. Animals Act, 1878, not exceptionally but habitually—periods, stated in detail above, which are shocking to any sentiment of humanity.

Effectual steps should be taken to put an immediate end to this great and crying abuse.

Second.—To the necessity of strengthening the regulations under the Animals (Ireland) Order of the Privy Council, under the head of sea transit. These would be in the main:—

1. To reduce the size of the pens, whereby the stability of the shifting boards shall be increased; and to increase the height of hatch-combings.
2. To prescribe definitely in regard to the requirements for effectual ventilation.
3. To prescribe definitely as to head-roping and foot-holds.
4. To insist on at least one alley-way fore and aft of the vessel, allowing for passage of men from end to end on each deck, between the pens.
5. And to define the minimum number of men, according to number of cattle, in attendance on the cattle on board; the captain of the vessel to be responsible for the due carrying out of this provision. And every cattle drover or attendant plying for hire should be required to have a licence from the local authority.

The adoption of such regulations will reduce the suffering and loss entailed in all weathers by the sea transit, and will provide against the worst consequences of the transit in exceptionally severe weather.

And *third*, to the need of establishing directly upon the captain of the vessel the responsibility for the due care of his cargo from the time the animals pass the gangway, at place of loading, to the time when the consignee takes delivery at the place of landing. It is believed that this would tend, amongst other things, to discourage the starting of boats laden with cattle during the course of a gale.

The cases of the "Blackrock" and "Mayo," in the gale of November 16-19 last, which led immediately to the present action of the society, must be specially referred to.

The "Blackrock" is a screw-steamer, belonging to the Dublin and Mersey Company, and the "Mayo" a

paddle-steamer of the City of Dublin Steam Packet Company. The "Blackrock" sailed from Dublin Thursday, November 16th, p.m., and encountered the gale during the night. The "Mayo" sailed from Dublin Friday, November 17th, p.m., in the height of the gale.

The excuse on the part of the "Blackrock" for what occurred is that her steering-gear broke, and the vessel fell away to the sea, and, lurching heavily, the weight of the cattle was driven in one direction, causing the shifting boards and their fastenings to give way. Thus the cattle received the injuries and underwent the pitiable sufferings during the remaining half of the voyage that were disclosed on arrival at the landing stage; the vessel itself being so heavily listed on one side, owing to the weight of cattle and water, as to have been with difficulty brought into port. Of the dead many were crushed, suffocated, and drowned in the holds, and of those alive many were in a horrible condition, requiring to be put out of their misery on being hauled ashore.*

When landed, except such authority in the interest of humanity as the officers of this society possess, there appeared an absence of any sufficient authority to order and direct the prompt disposal of the injured animals, whether by killing them or by restorative means where possible, nor were any proper means for these purposes provided, so that pole-axes were not obtained, and the injured beasts were killed by men with knives cutting their throats; while large numbers in all conditions of suffering were left lying undisposed of through the afternoon and evening, and as a consequence the landing stage presented for hours a revolting spectacle of suffering.

In the "Mayo" case, this steamer was reported to be struck by a heavy sea, which gave her a heavy lurch to port, with the same effect, on a somewhat smaller scale, as in the "Blackrock." Certain of the boards yielded to the pressure, and the cattle suffered in a similar horrible way to the number of apparently considerably over 50, which were ultimately landed dead, or dying, and maimed. The "Mayo" having berthed at the landing stage at 1.15 p.m. on Saturday, November 18th, did not land the last of these injured and half-dead creatures until 10 a.m. on Sunday morning, November 19th—20 hours from the time of arrival at Liverpool, and 40 hours from the time of sailing from Dublin—a piece of gross cruelty, which it is necessary should be placed upon the proper shoulders.

Either of these accidents—one a minor derangement of machinery, the other being struck by a heavy sea—is of a kind liable to happen in all storms; and with more stable fittings the results which ensued were in both cases preventible.

The case against the captain of the "Mayo" came before the magistrates on January 16th. It was brought on the charge of leaving injured and dying cattle, undischarged, in their misery in the hold or 'tween-decks of the vessel for long periods, amounting in the case of those last discharged to 20 hours after arrival at Liverpool.

Of the gross inhumanity and shocking cruelty of this neglect there can hardly be two opinions. The magistrates having held, however, that the evidence, which was complete as to the above facts as to time of discharge, failed to connect the captain personally with the offence, the case was dismissed, without costs, against the society.

As the law so interpreted stands, therefore, it appears that the vessel and owners, as represented by the master, can deny responsibility either to speedily discharge living animals, or to provide food and water for them while remaining in their custody.

The committee is of opinion that for the diminution of the existing evils of both injury and suffering to animals, it is difficult to exaggerate the importance of establishing the liability of the master of the vessel for the consequences of carelessness and neglect and the absence of supervision on board ship; and they recommend that the same measures be urged as have proved effectual in establishing this liability in the Atlantic trade.

The Chief Travelling Inspector's Report to the Privy Council, 1889, which has been referred to and quoted from, appears to have been the outcome of a painstaking

* NOTE.—In this case the particulars of numbers are as follows:—Cattle shipped, 347 head. Of these 186 "walked ashore." The remainder, 161 disabled cattle, were dragged out of the holds and slung ashore dead or injured. The dead had been crushed, drowned, or smothered in the holds. Sheep shipped, 129. Of these 54 walked ashore, 40 were landed dead, 35 had been washed overboard.

inquiry into the cattle traffic from Ireland to Great Britain. It seems to have led to no results. This may be partly due to the timid nature of the inspector's remarks upon the recommendations made by the conference of the societies interested in the trade. The fact that improvements involve cost, and would be likely to cause increased rates on the cattle, seems too apt to frighten the inspectors from what they would otherwise recommend, in disregard apparently of the consideration that the saving to be made in the im-

proved condition and value of the cattle, even at the more moderate estimates, promises to be an ample set-off against the outlay for better accommodation and care.

And, from the point of view of this society, a trade conducted in a manner shown to involve great and continued cruelty preventible by better methods and regulations will not be tolerated by the public, as soon as they are acquainted with the facts, whether there is a money advantage in such improvements or not.

APPENDIX No. 18.

(Handed in by Mr. Booth, a Member of the Committee.)

REPORTS submitted to the ULSTER SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS as to treatment of CATTLE in transit.

Ulster S.P.C.A., Belfast,
April 6th, 1894.
SIR, I BEG to make the following report. On the night of the above date, between 8 and 10 p.m., I saw between 300 and 400 head of very poor weak cattle being rushed on board the Whitehaven steamer for transit to that port in England. These cattle which had come direct from the train, some of them being put on in the early part of the day at Sligo and other equally distant towns, having no facilities for receiving food on the train, nor no means of getting a supply on board the ship, they must naturally be in a very exhausted state when they arrive at the other side of the Channel, and then, perhaps, be hurried on to some fair inland without proper care or attention of any sort. As this is only one of many cases that come under my notice, I would most respectfully ask your attention to this, as I think there should be some means taken to put a stop to such practices.

Robert Boag, Esq.,
Hon. Sec.
A. BLACKBURN,
Inspector S.P.C.A.

Ulster S.P.C.A., Belfast,
April 12th, 1894.
SIR, I BEG to make the following report. I find that there are three constables and a sergeant of Royal Irish Constabulary, also an ex-policeman engaged by the Portal Inspection Department, whose duty it is to look after the number of cattle which are shipped from this port, and to assist in the inspection of such cattle, and to see that the proper arrangements are carried out so far as regards the proper ventilation, footholds, sanitary and stowage, &c. But owing to the vast number of cattle which are shipped at this season of the year it is utterly impossible for such a small body of men to see the requirements of such a large quantity of animals of all classes. There are eight boats and sometimes nine sailing from Belfast all carrying cattle, and some nights there will be from 300 to 500 head put upon one boat between the hours of 7 and 8 o'clock p.m., and as it generally takes two men to each boat it is plain they cannot see the half of the cattle that are shipped,

therefore they know nothing about the condition of one half of the cattle that leave here.

There is another point I would wish to draw your attention to, namely, the manner in which the cattle are stowed on board most vessels leaving here. Both sides of the vessels are packed up along the engine rooms, and no means of getting along the pens behind or in front of the cattle. If any animal should fall down there is no way of reaching it by the cattlemen. As regards the feeding of cattle arriving here they are subjected, in many cases, to no care in that way whatever; say they leave the home of the farmer or seller at an early hour of the morning and are driven in some instances a distance of from six to 10 Irish miles, and stand in a fair until purchased, they are then huddled into some small yard and kept without either food or water until such time as the railway companies see fit to send a train away with them to their destination, and unless a very important fair there are no facilities given to shorten the time these poor animals have been exposed to such treatment. I have known of cases where they have kept animals all night in railway waggons, because they were not in time for the ordinary train, or, perhaps, had more than they could send by that train, and if we presented ourselves in the yard to make inquiries we were ordered off the premises by the constable of the company. I would suggest that in the towns where the largest fairs or markets for cattle are held and are sold for shipment, that there should be large yards acquired for such cattle, such yards to be supplied with drinking troughs and racks for fodder, and that the buyers be compelled to put their cattle, as soon as bought, into those yards, and that there should be an inspector provided by the Board to attend said fairs and report the matter as to how it was carried out, and to give him power to take the necessary steps to enforce the carrying out the Order of the Board or Privy Council.

At the delivery by rail of all cattle they are subjected to a large amount of cruelty by being put into trucks where there are square uprights inside parts of the frame work of carriage, and during the journey they are dashed up against these projecting pieces of timber and injured in a cruel and painful manner. Only to-day I saw half of the cattle that came off one of our principal lines of railway in that state.

Robert Boag, Esq.,
Hon. Sec.
A. BLACKBURN,
Inspector S.P.C.A.

APPENDIX No. 19.

MEMORIAL received by the PRESIDENT of the BOARD OF AGRICULTURE from the SOCIETIES FOR PREVENTION OF CRUELTY TO ANIMALS of CORK, DUBLIN, ENNISCORTHY, KILKENNY, WATERFORD, and WEXFORD.

To the Right Hon. HERBERT C. GARDNER, M.P.,
President of the Board of Agriculture.

THE MEMORIAL of the SOCIETY FOR PREVENTION OF CRUELTY TO ANIMALS

Showeth—

1. That this society, for some time past, has had their attention called to the transit of cattle between Ireland and Great Britain, as at present conducted, and have reason to believe that much cruelty exists, and unnecessary loss and injury are incurred during such transit.

2. That amendments are needed, on many points, in the existing regulations, by which the traffic is controlled, and your Memorialists desire to urge the following points, which are especially required for the diminution of the suffering, injury, and loss, at present involved.

- (a.) That the present system of land transit should be revised, especially as regards, in many instances, the delay in shunting cattle on the various railways, and the supply of food and water at regular intervals not exceeding 2½ hours.
- (b.) That it should be imperative that, previous to embarking, all cattle should,—*firstly*, be detained for three hours in the yards at the shipping place, with adequate supplies of food and water within the reach of each animal; *secondly*, that a sufficient supply of food and water shall be provided on

board all cattle boats, particularly on the longer distance routes, in the event of landing being delayed from any cause prolonging the voyage, such as storm, fog, or derangement of the machinery, beyond 24 hours after time of embarkation; and *thirdly*, that in the case of all cattle to be forwarded by railway, from the port of landing to inland towns, or driven beyond short distances, a sufficient period for feeding and watering shall be afforded at the place of landing, and food and water be offered to all such animals, whether in reception lairs provided by the wharf or deck owners, or in the sheds of the railway or steamboat receiving stations. The scale of the accommodation and arrangements in such places being required to be convenient for the practical carrying out of the intention of the Regulations.

- (c.) That there should be adequate supervision of attendants on boards the boats, under the control and responsibility of the captain of the vessel, to the extent of not less than a specified number of men in proportion to cattle carried, which, it is suggested, should not be less than one man to 50 beasts or 100 sheep or pigs; and that a clear passage way of at least 18 inches wide should be left between the pens, reaching from the gangways both fore and aft of the vessel, in each hold or deck where cattle are stored.
- (d.) That all attendants on cattle employed upon the boats should be provided with a licence and badge from the local or steamboat authority.
- (e.) That the number of cattle allowed to be carried in a pen should be reduced to five, except where small store cattle are carried, in which case not more than six shall be carried in one pen.
- (f.) That the partition and shifting boards on vessels, and the grooves into which they fit, shall be of such strength, and so adjusted, as to withstand the action of heavy weather, and to resist the weight of cattle then liable to be thrown against them, and that the height of hatch combings be increased.
- (g.) That every head of cattle should be securely tied by the head so as to stand athwart-ships, and that the footholds be improved.

And that in the event of a permit being given to carry any cattle loose, the footholds of the pens reserved for such loose cattle should be required to be of battens fixed athwart-ships as well as fore and aft.

- (h.) That carrying animals on the top deck, except in smooth weather, should be prohibited.
- (i.) That sufficient forced ventilation should be provided to all portions of the vessel where cattle are stowed, either by compressed air, by fans, or other effectual mechanical means, independent of ventilation depending on the motion of the vessel through the air.
- (k.) That the responsibility of the master of the vessel as representing the owners, for carrying out the regulation should be established, so that he shall be answerable for any neglect of the cattle, either as regards failure in speedily discharging, in supplying food and water after 24 hours, or in promptly slaughtering in proper manner, by a competent person, any animal suffering from broken limb or other serious injury during the voyage.

3. Your Memorialists further respectfully pray that inquiry may be made into the class of vessels at present certified for the conveyance of cattle, with the view of providing that vessels not specially constructed for the trade, vessels of less than a specified size and breadth of beam, steamers (especially screw steamers) not provided with water, or other sufficient ballast, or carrying their load too high, so as to cause unnecessary rolling at sea, should not be passed for the carrying of cattle; as well as into the loading, and sending to sea, cattle-boats in the commencement of a storm, or during the prevalence of gales, and, if possible, cause such practice to be discouraged; and further, that such orders or amended regulations may be issued as shall effectually deal with the points to which the Memorialists have now ventured to call attention.

And your Memorialists shall ever pray.

Signed on behalf of the Society for Prevention of Cruelty to Animals.

APPENDIX No. 20.

MEMORIAL to the PRESIDENT of the BOARD of AGRICULTURE.

To the Right Hon. HERBERT C. GARDNER, M.P.,
President of the Board of Agriculture.

The HUMBLE MEMORIAL of the LIVERPOOL, MANCHESTER, and CHESHIRE BRANCHES of the ROYAL SOCIETY for the PREVENTION of CRUELTY to ANIMALS, and of the LIVERPOOL BUTCHERS' and MEAT TRADERS' ASSOCIATION, and other Persons interested in the QUESTION of the TRANSIT of CATTLE across CHANNEL from IRELAND.

Showeth—

1. That the above-named branches of the Royal Society for the Prevention of Cruelty to Animals have for some time past had their attention called to the cruelties incident to the transit of cattle between Ireland and Great Britain as at present conducted, and have made careful inquiry into the causes of the same. And the Liverpool Butchers' and Meat Traders' Association have for many years been conscious of the great unnecessary loss, injury, and animal suffering incurred during such transit, with little or no success attending any efforts hitherto made to improve the conditions under which it is carried on.

2. That as the result of the investigations and experience of your memorialists, they have satisfied themselves that amendments are needed on many points in the existing regulations by which the traffic is controlled, and they desire to urge upon you the following points, in regard to which they believe that amendments are especially required for the diminution of the injury, loss, and suffering at present involved in it, namely:—

- i. To require the provision of food and water at intervals not exceeding 24 hours.

To comply with this regulation it is believed to be imperative in the *first* place, that, previous to embarking, all cattle should be detained for three hours in the yards at the shipping place, with adequate supplies of food and water within the reach of each animal. *Secondly*, that a sufficient supply of food and water shall be provided on board all cattle boats, particularly on the longer distance routes, for the event of the landing being delayed from any cause prolonging the voyage, such as storm, fog, or derangement of the machinery, beyond 24 hours after time of loading; and *thirdly*, that in the case of all cattle to be forwarded by railway from the port of landing to inland towns, or be driven beyond short distances, a sufficient period for feeding and watering shall be afforded at the place of landing, and food and water be offered to all such animals, whether in reception lairs provided by the wharf or dock owners, or in the sheds of the railway cattle receiving stations. The scale of the accommodation and arrangements in such places being required to be convenient for the practical carrying out of the intentions of the regulation.

- ii. To ensure adequate supervision of attendants on board the boats, under control and responsibility of the captain, to the extent of not less than a specified number of men in proportion to cattle carried, which it is suggested should be not less than one man to 50 beasts or 100 sheep or pigs; and that a clear passage way of at least 18 inches wide shall be left between the pens, reaching from the gangways both fore and aft of the vessel in each hold or deck where cattle are stored.

And that all attendants on cattle employed upon the boats shall be required to provide

themselves with a licence and badge from the local authority.

- iii. To reduce the number of cattle allowed to be carried in a pen to five, except where small store cattle are carried, in which case not more than six shall be carried in one pen.

To require specifically that the partition and shifting boards, and the grooves into which they fit shall be of such strength and so adjusted as to withstand the action of heavy weather, and to resist the weight of cattle then liable to be thrown against them, and to increase the height of hatch combings.

To require that every head of cattle shall be securely tied by the head so as to stand athwartships, and that the footholds be improved.

And that, in the event of a permit being given to carry any cattle loose, the footholds of the pens reserved for such loose cattle shall be required to be of battens fixed athwartships as well as fore and aft.

And to prevent the carrying of animals on the top deck, except in smooth weather.

- iv. To provide specifically for sufficient forced ventilation to all portions of the vessel where cattle are stowed, either by compressed air, by fans, or other effectual mechanical means, independent of ventilation depending on the motion of the vessel through the air.

- v. To establish the responsibility of the master of the vessel, as representing the owners, for the carrying out of the regulations, and for the due care of his cargo, so that he shall be answerable for any neglect of the cattle, for failure to speedily discharge, to supply food and water after 24 hours, or to promptly slaughter in proper manner by a competent person, any animal suffering from broken limb or other serious injury during the voyage.

3. The memorialists further respectfully pray that the Departmental Committee about to be constituted may inquire into the class of vessels at present certified for the conveyance of cattle, so that vessels not specially constructed for the trade, including vessels of less than a certain specified size and breadth of beam, vessels (especially screw-steamers) not provided with water or other sufficient ballast, or carrying their load too high, so as to cause unnecessary rolling at sea, shall not be passed for the carrying of cattle.

And may also inquire into the loading and sending to sea cattle-boats in the commencement of a storm, or during the prevalence of gales, and, if possible, to cause such practice to be discouraged.

Your memorialists therefore respectfully pray that the Board of Agriculture will issue such orders or amended regulations as shall effectually deal with the points to which the memorialists have now ventured to call your attention.

APPENDIX No. 21.

MEMORIAL FROM REPRESENTATIVES OF THE LEEDS BUTCHERS' ASSOCIATION TO THE CATTLE TRANSIT COMMITTEE.

TO SIR CHARLES CAMERON, M.P., Glasgow (College Division), Chairman of the Departmental Committee re Transit of Irish Cattle, and Members of the Committee appointed by the Board of Agriculture.

SIRS,

The undersigned representatives of the Leeds Butchers' Association, on behalf of the cattle traders of Leeds, are largely interested in the live stock import trade of this country, and very considerably in that from Ireland; and whatever injures Irish cattle reduces their market value, and interferes seriously with their consumption. We believe that, in consequence of the absence of proper regulations affecting their transit, Irish cattle are more bruised and otherwise injured than American or Canadian, much to the loss of traders and the general public whom they are the medium of supplying.

We believe by efficient regulations a great deal of the injuries complained of might be mitigated, if not entirely removed. We have reason to believe that large lots of cattle from the interior of Ireland are carried by railways at a through rate, the companies interested contracting themselves out of all responsibility from whatsoever cause; that the result of this has been great cruelty to many animals carried from the inland towns, the companies or their agents having no interest, or being under no obligation, to insure delivery in good condition.

We believe the powers that be have not effectually exercised their authority to mitigate this crying evil, and beg respectfully to point out that existing regulations defining and controlling the carrying capacity of

steamers engaged in the Irish cattle trade are inefficient. That overcrowding, with its consequent suffering and death, goes on unchecked, no practical legal remedy being available; and that hitherto official notice of the numerous casualties and injuries occurring through want of space for the cattle on board these steamers has not been taken.

We believe that cattle, the property of different owners, and of different ages and sexes, are shipped from Irish ports, and that in loading cattle gross cruelty is daily inflicted upon the animals, there being apparently no supervision over the men employed in this work.

We earnestly hope that in the interests of humanity, as well as in the interest of the owners themselves, means be at once taken to remedy the grave defects pointed out, and thereby enable the Irish cattle to be landed in as good condition relatively as foreign cattle, which encounter longer and more tempestuous voyages.

We suggest sufficient room may be specified and given on shipboard for each animal, and that when death or injury occurs the carriers may be brought under the Contagious Diseases (Animals) Act, to show whether proper room has been given and reasonable precautions employed during transit to prevent such mortality or injury.

We respectfully urge the necessity of securing remedial legislation at the earliest possible date.

We have, &c.

ALFRED EDMANSON, President.
JOHN R. SMITH, Vice-President.
WILLIAM WALKER, Treasurer.
EDWARD W. DARBY, Secretary
Leeds Butchers' Association.

1, Cheapside, Leeds,
2nd April 1894.

INDEX AND ANALYSIS OF EVIDENCE.

A.

ABRAHAM, THOMAS FELL (analysis of his evidence): Is a member of Liverpool branch of the Society for Prevention of Cruelty to Animals, 3948. Assisted in drawing up a report based on the evidence of an officer of the Society who travelled in the spring and summer between Liverpool and the Irish ports, and on a report by Captain Harry, who travelled in winter on the boats of the City of Dublin, City of Cork, and Drogheda companies, and on the Blackrock, 3942-6. Captain Harry reported that few animals were fed before shipment, and that there is cruelty in loading, 3957; that cattle are not tied up in the yards, 3960; that ventilation is imperfect, 3961; that cattlemen are insufficient in number and incompetent, 3966; that cattle are often exhausted when shipped, 3967. Most lines admit the officers of the society but the City of Dublin do not, 3969-3. In one case a steamer from Cork was delayed by fog so that the passage took 38-40 hours. Probably the cattle were without food nearly 60 hours and were without water at least 48 hours, 3976-80. Has never heard that cattle should not be allowed to drink during transit, 3981-3. In the Birkenhead lairs cattle are fed up to the time of slaughter, 3983. In the case of the Blackrock the captain denied that he had power to slaughter injured cattle, and some cattle were so injured that owners could not identify them. Captains should be responsible till the cattle are landed, and after landing the agent of the shipowner, 3984-94. Fourteen cattle were recently landed with broken limbs from a Belfast steamer; a prosecution was instituted against the cattlemen, but the case was dismissed, 3895-4000. The captain of the "Mayo" was prosecuted, but that case was also dismissed, 4001-3. It is useless to prosecute for beating and tail twisting, as the cattle must be got out of the ship in some way, 4008. Ships should be licensed, 4038-9. Not more than four cattle should be carried in one pen, 4040-41. The ventilating apparatus on the Blackrock answers admirably, 4043-4. Pigs are marked by slashing with knives. To prevent this the cattle yards should be open to all adults who apply for an order to the Board of Agriculture; by this means a status would be given to the inspectors of the society, 4048-60. A charge of 1d. to 2d. per head might be made to cover the cost of supervision, 4061-2. Gives evidence rather as to the investigations of the society than as a personal witness, 4104-8. The Liverpool society have only three inspectors, and cannot be expected to deal with the Irish trade, 4109-11. The facts brought out by inquiry were new to the members of the society, 4114-5. The report of the society inspectors was disregarded, as it was made in the slack season, 4116-9. The regulations are not enforced, 4123-6. There is no legal remedy, 4126-7. Is aware that 45 beasts are carried in a pen in the American trade, but would limit the number to three in Irish traffic, 4153-5. Believes his society have prosecuted drovers for using improper goads, but has encouraged the use of goads at Birkenhead, 4156-8. Many shipowners allow officers of the society to go on board, but there should be a legal right of entry.

ACCOMMODATION FOR CATTLEMEN: 1777; 3767-8.

ACT of 1869: 3; 4; 5; 6.

„ of 1878: 15; 20; 217; 2711; 6286; 6309.

„ **MERCHANDISE MARKS:** 1271.

„ **MERCHANT SHIPPING:** 6259.

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AGRICULTURAL INTEREST: 3193; 3211.

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ANDERSON AND MCKINLEY VENTILATOR: 2917.

„ **„ARRANMORE,”** SS.: 3919-26.

ATLANTIC TRANSIT: 116-7; 199; 204; 224-7; 240-1; 243; 369; 924; 1020; 1158-9; 1254-7; 1390; 1660-4; 1719-20; 1901; 1929; 2181-2; 2595-7; 2615-20; 2725-8; 2792-5; 2804-6; 3011; 3212-4; 3377-8; 6403; 6439-51; 6530-2; 6536-55.

B.

BALLAST: 3458, 3619, 4860-3, 5885.

BANKS, WILLIAM S. (analysis of his evidence): A director of Stanley Market and retail butcher, 2205-9. A large proportion of cattle in Stanley Market are Irish, 2210-5. When free from damage Irish beef is the best that can be got, 2216. The estimate of 10s. a head deterioration is too moderate, 2217-27. Expert men should be in charge of cattle while on board, 2229. And sufficient accommodation should be provided, 2230.

„ **„BANRIGH,”** SS.: 5662.

„ **„BATTENS.”** See Footholds.

BEATTIE, WILLIAM (analysis of his evidence): Agent for Aberdeen Steam Navigation Company, 5566-8. Carries 1,200-3,500 fat cattle in a year from Aberdeen to London, the maximum number on any one boat being 92, 5569-73. Cattle are tied up in pens holding four or five separated by cross stalls, 5574-5. Cattle are tied up and fed always before embarkation in sheds at Aberdeen, 5576-83. Cattle are put on board in lots of eight or ten, and quietly, by the servants of the company, 5587-90. Cattle receive water and about 20 lbs. of hay during the voyage of 36 hours, 5594-7. The gangway from dock to deck is nearly level, 5598. Cattle in the alleyways are sheltered, but cattle in the wells are exposed to wind and rain, but do not seem to suffer, 5602-7. Length of railway journey from Aberdeen is 32 hours, 5612-4. Carries cattle entirely at shipper's risk, 5617. Few shippers insure, 5618. The rate of insurance at Lloyd's is 6s. 8d. and cattle that walk ashore are not paid for, 5619-20. Does not think that one animal would be killed in a year, 5621. Has occasional cases of injury, but no claims are made by shippers, 5622-5. The Aberdeen steamers are built specially for carrying cattle, 5626-7. Two out of four cattle can lie down on board, 5628. Has had no accident from trampling, 5629. The average value of cattle carried is 25l., 5630-2. Has carried cattle 70 or 80 years; has not used paddle boats since 1870, 5633-7. Customers send by rail when the time of sailing is inconvenient; they generally prefer the steamers owing to cheaper rates and easier carriage, 5638-40. Polled cattle are more docile, but more difficult to deal with when frightened, 5641-3. Carries cattle with their heads inwards, 5644. Finds two fore and aft battens 3½ feet apart sufficient, 5645-53. Two men have charge of the cattle, one is always on duty, 5665-72. Cattle are shipped in lots for convenience in penning; 100 can be loaded in three-quarters of an hour, 5678-80.

BELL, CAPTAIN GEORGE ROBERT (analysis of his evidence): Liverpool agent of City of Dublin Steam Packet Co. for 19 years, 4694-7. Has frequently shipped batteries of horse artillery without difficulty, 4698-701. The horses go in the same places as the cattle, and are tied to the same rings, 4702-5. Horses are allowed more room than cattle, 4706-10. When an animal is reported "down" men are sent to get it up, 4711. Cross battens would interfere with cleansing of the ship and the carriage of pigs, 4712-4. There is no cruelty at Liverpool, slings are used, and employes well watched, 4715-7. The Mersey Dock Board are making improvements in the landing-stage at Liverpool, 4721-3. The blows that can be heard on the ships during landing of cattle are not on the cattle but on the sides of the gangways, 4733. In the "Mayo"

BELL, CAPTAIN GEORGE ROBERT—cont.

some head ropes were cut by cattlemen, and the cattle that were loose damaged those that remained tied, 4735-41. The landing-stage at Liverpool is rough asphalted, and more space will be given on the quay for drawing, 4743-6. Is on the stage frequently, and has not seen any cruelty, 7751-2. Appliances are provided for weak cattle, and the landing is done under the eye of the public.

"BLACKROCK" SS.: 495; 783; 811; 870; 910-3; 934; 944-64; 1008-16; 1040-7; 1051-2; 1941; 1982; 2063; 2189-90; 3383; 4309; 6499-507; 6930-1.

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BOARD OF TRADE: 151; 156; 265-6; 519; 539; 543; 640; 673; 734; 755; 762; 769; 806-9; 893-5; 1199; 1516; 1704; 1706; 4658-64; 6759.

BOLE, J. A. (analysis of his evidence): Veterinary Inspector and Supervisor at Belfast, 7137-9. The condition of cattle brought for shipment has much improved during the last 20 years, 7140-2. Inspects each lot of cattle, causes them to be branded, and grants a certificate which lasts for one day and is examined by the ship inspectors when the cattle are brought to the ship, 7143-4. No fee is charged for inspection, 7145-6. When cattle presented for inspection are in a bad condition, it is generally because they have just come off a long day's journey, 7147-8. Proceedings have been taken for cruelty in keeping pigs 12 hours without food or water, under the Cruelty to Animals Act. Cattle in transit are often kept 12 hours without food, but it is difficult to prove the fact, 7149-53. Would not refuse to pass cattle unless they were so exhausted that they could not be inspected, 7154-5. The Belfast inspection sheds are not large enough for lairages, but there are lairs in Belfast, 7156. Cattle come to Belfast from the South of Ulster, Leinster, Connaught, and Roscommon, 7157. The railway journey from Roscommon to Belfast occupies 24 hours, 7158-60. The trucking accommodation at Roscommon Station is bad, and it would be difficult to feed and water cattle there, 7161. Believes that cattle are sometimes in want of food, but water is provided in the inspection yards, 7162-3. Persons in charge of cattle object to watering them after they have been driven, 7164. Pregnant cows have "mashes" given them, 6165-6. Shipment is superintended by ship inspectors who prevent cruelty, 7167-8. There have been two or three summonses for cruelty, one lately for wanton beating, 7169-71. Is a member of the Ulster Society for Prevention of Cruelty to Animals, and most of the inspectors are members of the Dublin Society, 7172-3. Has occasionally seen tail twisting, but not such as to cause breaking of joints, 7174-6. Skilled men have no difficulty in loading cattle on to ships, 7177. An angle of 30° is not steep, 7178. Many cattle are booked through Belfast from a considerable distance. Some are accompanied by a caretaker, some are not. Those in charge of a caretaker are not more likely to get food than others. Everything depends upon whether the owner chooses to have the animals fed or not, 7198-204. The lairage at Belfast is sufficient for purposes of inspection, but might be improved with advantage to the trade, 7215-7211. The Ulster Society for Prevention of Cruelty to Animals is not in connexion with the Dublin Society, nor does it supervise cattle during the sea voyage, 7214-23. There are five ship inspectors at Belfast. Sometimes seven boats may be loading at the same time, 7224-9. Strong fat cattle can go without food longer than weak ones, but 12 hours is a long enough fast for the strongest cattle, 7230-2. It may happen that cattle are sent from Belfast without getting water, 7233. Some boats besides Burns' have alleyways between the pens, but most boats have none, 7234-6.

BOWRING: 5540-1.

BRANIGAN, CAPTAIN LAWRENCE (analysis of his evidence): Managing director of Drogheda Steam Packet Company, 4758-61. Fan ventilation has been tried by the Drogheda Company and found inoperative, 4765-7. The Drogheda Company fleet has been built since 1871 with all modern improvements, 4770-1. Cattlemen are part of the crew, 4772. The Drogheda boats carried 157,000 cattle in three years with two losses, 4780. The present regulations are good and are enforced, 4781-2. The Drogheda line is the only one that has

BRANIGAN, CAPTAIN LAWRENCE—cont.

paddle boats exclusively, 4787-9. Thinks the blindness attributed to ammonia is caused by lime, 4793. The lower hold is the best part of the ship for cattle, 4794-7.

BREAKWATERS: 6470-2.

BRECHIN, HUGH (analysis of his evidence): Is a magistrate of Glasgow and member of local authority, 1370. Represents Glasgow authorities, 1371. Is a partner in firm of Brechin Brothers, Glasgow, 1372. Has had 52 years' experience as a wholesale and retail butcher of the condition in which Irish cattle arrive, and the matter has been before him in a public capacity, 1373-7. Injuries to cattle are often invisible, and the suspicion of bruises reduces the average value of Irish bullocks by 20s. to 28s., 1378-84. The flesh of injured cattle is discoloured by fever, 1385-6. Irish stores do not begin to fatten so soon after transit as Canadian, 1387-8. Canadian cattle can be slaughtered at once, whereas Irish cattle are kept over if possible, 1390-2. Cattle should be tied in pens with partitions, battens, and cross battens, 1393-4. Much damage occurs through cattle falling over each other, 1395-6. Facilities should be given for feeding and watering in case of detention by fog, 1398-9. Does not allow cattle to be fasted before slaughter, but believes the practice may be followed by some, 1400-5. Would insist on head-roping, 1406. Cattle should not be shipped till shortly before starting, 1407. There should be sliding breasts on the wharf to diminish the steepness of gangways, 1411-2. Goats are more humane than sticks, 1413. Market Trusts Committee have not considered the landing accommodation at Glasgow, and in 1893 180 Irish cattle were landed dead, 1415-8. There should be a common place for cattle on arrival, 1419. The local authority of Glasgow have received suggestions from the Board of Agriculture as to providing a place for reception of cattle, but it would be difficult to find space at the wharf, 1421-7. It is advisable that cattle should be rested and fed, but it might be difficult to make regulations on this point, 1437-9. An Irish bullock of 7 cwt. would always be worth 14s. less than a Scotch bullock of the same weight, 1452-3. Thinks deterioration takes place in transit, for such bruised carcasses as are found in Glasgow are not seen in Dublin, 1454-5. The loss on damaged cattle falls partly on owners, partly on butchers, 1460-3. Finds Dublin cattle freer from bruises than those from Sligo, but cannot give reason, 1465-6. Cattle should be fed and watered on the voyage from Dublin to Glasgow, but this might not be necessary on the voyage from Belfast, 1467-70. All cattle should be tied up, whether horned or not, 1472-4. The bulk of the 180 cattle landed dead during 1893 were lost during January, October, and November, 1481. Cattle are as likely to be exhausted at the time of shipment in fine weather as in rough, 1487. Food and water should be provided on board because cattle are not fed before shipment, and also in view of accidental delays, 1488-9. Cleats should be fixed both ways to enable animals that are down to rise, 1490-1. Thinks the expense of detaining cattle for rest before shipment would be covered by the improvement in condition, 1500. It would be difficult to tie up stores, 1516. Store cattle cannot be defined, but a practical man at the Irish ports could decide what cattle ought to be tied up, 1508-9. Steamship owners should satisfy the Board of Agriculture that their ships are satisfactory, 1513. Ships should be licensed for a given number of cattle only, 1518. Cattle should be detained six or eight hours at Dublin, and the same time at Glasgow, 1519-24. Glasgow has no floating stages, 1528-32. The Broomielaw is crowded, so that a reception place for cattle could not well be set up there, and a sliding breast might be objected to by the Clyde Trust, 1540-9. The burgh of Govan would object to the use of Shieldhall as a landing-place, 1553-5.

"BRIAR" SS.: 3619-24.

BROKEN HORNS: 3587; 3773.

BROKEN LIMBS: 3781.

BROKEN RIBS: 3590-3; 3779; 4174-5.

BROKEN TAILS: 3414; 6999; 7000.

BROOMIELAW: 163-4; 362-3; 1540-9; 1609; 5106-7.

BRUISES: 1168; 1256; 1359; 1379-4; 1396; 1575; 3005; 3148-9; 4172-3.

BURNS, G. & J., & Co.: 489; 4875.

BURNS, JAMES CLELAND (analysis of his evidence): Gives evidence on behalf of the Clyde Steamship Association, and specially represents Messrs. G. & J. Burns, which

BURNS, JAMES CLELAND—*cont.*

firm carries cattle between Belfast, Larne, Londonderry, Ardrossan, Greenock, and Glasgow, 4874-82. When fog is in the river cattle are sent on to Glasgow by train from Greenock, 4883. At Belfast cattle can be shipped almost on a level. Pens are provided and water, 4885-91. At Larne there are openings in the quay wall. The cattle come alongside by rail, 4892-7. Cattle come to Belfast from a radius of 30 to 40 miles, 4900-4. And to Londonderry from a 50-mile radius, 4907-8. There is no difficulty in loading, 4909-10. Lots are kept separate as far as possible, 4911-4. Drovers at Belfast are not employed by the company and are not licensed, 4915-9. Cattle are carried on the 'tween decks, main decks, and lower hold, 4920-1. The smallest clearance between the cattle ladders and the hatch combings is 6 feet, 4922-9. Employs cattlemen and sends as many as six with a full cargo of cattle, 4930-6. Free passes are given to owners of live stock and their drovers, who accept the passes, but do not look after the cattle, 4937-44. Does not provide hospital pens, 4945. Carries cattle at owner's risk, 4949-51. Meets claims for injury, but does not recognise liability, 4952-4. Statistics as to injury are based on number of claims, 4955-6. Few pens reach the maximum size of 15 feet by 9 feet, 4957-62. Would not consider smaller pens an improvement, 4963-8. Ties bulls and cows, but no other cattle, 4969-72. Pens are not filled as full as they will hold, but cattle must not be too loosely packed, 4973-5. There are alleyways on main and 'tween decks between the pens, 4977-82. Could feed and water cattle on the voyage, but does not, 4983-4. Cattle that get down are brought to the hatch mouth, 4985. Does not reserve a shifting pen, 4986. Uses Root's blower, which drives 90,000 cubic feet of air per hour; is found useful when there is no wind; cost 200*l.* to 300*l.* to fit up, but little to work; has been in use seven years, and does not get out of order, 4989-5007. Was prevented from using the goad in Belfast by the Society for Prevention of Cruelty to Animals, but uses goads in Glasgow without injury to cattle or interference on the part of the local authority, 5008-20. All the vessels of G. & J. Burns overlap each other at the quay, and the gangway used is 50 feet, 5024-39. Cattle leaving Belfast at 10 p.m. reach Perth at 10 p.m. next day and Carlisle 1 or 2 a.m. the third day, 5040-8. Ships are surveyed very thoroughly at Belfast; it would be more convenient if the survey took place at Glasgow, 5049-50. The introduction of Company risk rates would not improve the carriage of cattle; all Burns' lines are competitive, but the competition tends towards cheaper rates rather than improvement, 5053-60. Caretakers sent by owners do not look after the cattle. If the company did not look after the cattle it would not be done at all, 5061-6. Prefers to carry cattle on the main deck as delivery is quicker and therefore cheaper, 5067-8. There are alleyways on the main deck and 'tween decks, but there is one row of pens which the alleyway does not reach, 5069-74. It would be practicable to make a double row of alleyways, 5075-7. Claims are paid on the understanding that no liability is admitted, 5079-81. Represents the Clyde Steamship Company. The Burns' boats are a fair sample of boats trading to Glasgow, 4082-5088. Cattle are always taken off with the 50 feet gangway, 5092, 5094. Hatches are nearly square, so that there would be no advantage in putting gangway fore and aft, 5096-7. There is a very little trouble in getting cattle out of the boats, 5098, 5102. There is not space on the Broomielaw to cut the quay, 5106. Cattle could not be landed at a special shed without great delay, 5107-8. The shed where the cattle are landed is an inward shed and is generally empty, 5109-15. Always carries cattle at owner's risk, 5127-9. Is not bound to have a company's risk rate, except in booking cattle to Glasgow *via* Ardrossan; such a rate is never asked for and would not be used, 5130-6. Has seen inspectors on the quay when cattle are being shipped, 5145, 5149. There are rates for store, fat, and calves, according to the judgment of the man in charge of shipment, 5150-4. The sea passage of the Burns' boats is short compared with some, 5181-4. Has not had any trouble with cattle owing to want of cross battens, 5188-92. The Surveyor of the Board of Trade only sees the ships at the time of survey, 5193-5. Cattle are driven on board by labourers who are under the stevedore, 5202-4. The Larne and Stranraer Steam Packet Company have three or four ships, and carry cattle regularly, 5205-10. It is absolutely necessary in the interests of passengers and cargo to discharge cattle at the ship's berth, 5211-2. It is to the interest of the

BURNS, JAMES CLELAND—*cont.*

company to deliver cattle with as little delay as possible, 5213-5. The alleyways are for the men, not for the cattle, 5230-1. Cattle are generally moved on by beating on the gangway, 5237. Planks are put along the gangway for drovers to stand on, 5238-40. Chief objection to Rooth's fitting is the dirt they would gather and the room they would occupy, 5241-3. Considers that in Mr. Rooth's fitting the collars would be dangerous and the expense very heavy, 5251-7.

C.

"CALORIC," SS.: 7026-7.

CANADIAN CATTLE: 2990; 3019; 3377-8.

"CANOPUS," SS.: 924; 995; 997; 1008-16.

CANTRELL, ROBERT (analysis of his evidence): Chief clerk of the Veterinary Department of the Irish Privy Council since 1878, 6753. The staff of the department consists of 27 veterinary inspectors, 41 ship inspectors, and two travelling inspectors, 6754-5. The Irish Privy Council act on the same lines as the Board of Agriculture, 6756, 6758. The vessels are surveyed once a year by the Board of Trade on behalf of the Privy Council, 6759. Cattle that are unfit for inspection are detained, 6760. Ship inspectors supervise loading of cattle, 6761. Reports as to treatment of cattle at fairs are received from the police, who co-operate with the travelling inspectors, 6763-5. The local authorities have full power to deal with cruelty at fairs, 6767-8. Inspectors report and the department communicates with the companies who generally comply, 6769-72. Many improvements have been effected in the last 10 years, 6769-75. Prosecutions have taken place since 1883 for shipping cattle without inspection, with improper fittings; cruelty to sheep in shipment; shipping an animal in an unfit state; cruelty to animals in pens; cruelty in marking pigs, 6776-800. A circular letter was addressed to all the shipping companies in 1885, calling their attention to various representations made to the department; the practical result of which was to draw attention to the points complained of, 6801-13. In 1889 a special minute was issued to the staff as to cruelty and overcrowding, and circulars in 1892 and 1893, 6814-26. Ship inspectors supervise loading. Their duties end at the port of embarkation, 6827-31. The Irish Privy Council have no power over cattle transit during the channel passage, 6839-44. No further regulations were made in consequence of the report of 1885, 6845-8. Has heard of the alleged general depreciation of Irish cattle in transit. No steps have been taken further than carrying out existing regulations, 6849-50. Mr. Booth's cattle fittings would be useful if not too expensive, 6851-5. The regulations have not been altered; since the deputation of 1889, but they have been better carried out, 6859-67. The report of 1889 was sent to all the principal carrying companies, 6868-70. The orders of the Irish Privy Council apply only to Ireland; once the vessels leave the port there is no control of any kind, 6871-2. Sees no objection to an inspector crossing with the cattle, 6873-4. There are eight ship inspectors in Dublin and two extra men are occasionally employed, 6880-1. The number is sufficient as shipments take place at different times, 6889. They report on every ship and are required to go on board every ship, 6890-3. They are generally members of the police, but about 11 are pensioners, 6895-8. The meaning of overcrowding is left to the individual inspector; it is not defined, 6904-14. The Board of Trade surveyors give detailed reports on ventilation, 6915-8. The Board of Trade certificate specifies the portions of the ship used for cattle, number and size of pens, footholds, ventilation, gangways, and disinfection, 6923-6. The certificate shows the size of each pen, 6927-29. The Blackrock was inspected and found to be properly loaded on the occasion of her loss, 6930-1.

CARE OF CATTLE DURING TRANSIT: 308; 1302-5; 1585; 1996; 2028-30; 2452; 2500-7; 3123; 3231-2; 3748; 4346-56; 6000-2; 6435-51.

" " BY COMPANY'S MEN: 160-4; 1133-5; 1306-16; 1665-75; 2111; 2145-7; 3365-7; 4195; 4772; 4828-30; 4930-44; 5061-66; 5599; 5768-72; 5939-42.

" " BY CREW: 5336; 5432-8.

" " BY OWNER'S MEN: 25; 36; 38; 81-4; 1974-5; 3365-7; 3523-4; 3536-7; 3883-9; 4529-33; 6244-6.

CARGO: 911; 944-6; 2016-8; 2167; 2710; 3236.

CASSIDY, JOHN (analysis of his evidence): Cattle dealer; buys stock cattle in Ireland and sells all over Scotland, 3578-84. Considers that loss by death is small as compared with loss by injury, 3585. Broken horns are very common, 3586-7. Has had 100 to 150 cases of broken ribs, 3588-93. Has had 20 to 30 cattle out of 100 to 250 blind for three or four days in the busy season, 3598-602. Has seen great injuries from want of proper footholds and ill-usage, 3606-7. Has no control over the cattlemen, 3608. Consignments should be kept separate, as by the Drogheda Steamship Company, 3609-10. In the busy season extra boats are put on, which sail without cargo or ballast. Such boats roll heavily, and the bigger cattle have to be carried in the hold, 3619-25. Has seen beasts thrown down in railway waggons, but seven-eighths of the injury is done in sea transit, 3640-2. Has his cattle fed and watered at licensed lairages, not in the steamboat company's yard, 3652-8. The cattle found blind on landing were free from blindness when shipped, 3664. In all cases paddle boats carry cattle better than screw steamers, 3665-7. Does business in Scotland but lives in Ireland, and is a member of the Irish Cattle Traders and Stock Owners' Association, 3668-71. Finds that there is no official supervision exercised over the cattle during the voyage, 3672-9. Has no alternative but to sign contract notes, 3706-7. Is aware that there is combination among the shipping companies as there is between railway companies, 3708-9. The Clyde Shipping Company have a compulsory insurance system 3713-9. Has received compensation from the Clyde Company for injury to store cattle, detected two weeks after landing, 3731.

CATTELMEN. See CARE OF CATTLE DURING TRANSIT.

"CAVAN" SS.: 926-7; 4491-3.

CERTIFICATES: 451-4; 519; 733-45; 748; 757-61; 766-7; 816-21; 850-1; 863; 877; 881-3; 3297; 6919-29; 6940-2.

"CEVIC" SS.: 1259.

"CITY OF ABERDEEN" SS.: 5662.

CITY OF DUBLIN STEAM PACKET COMPANY: 67; 97; 489; 1363; 1942-5; 2000; 2034; 2086; 2432; 2436; 2472; 3430; 3452.

"CITY OF LONDON" SS.: 5662.

CLAIMS: 4306-7; 4952-4; 5079-81; 5349-53; 5402-3; 6010-2.

CLARENCE DOCK: 1109; 1296-8.

CLYDE TRUST: 1420; 1494-5; 1549; 1609; 1691-2; 1744; 1878-80; 1890-1.

COLAM, JOHN (analysis of his evidence): Secretary of Royal Society for the Prevention of Cruelty to Animals for 34 years, 6948. There are differences in the English and Scotch law of cruelty to animals. In Scotch law cruelty must be wanton. In English law there is a provision as to compensation, and sections relating to conveyance of animals and slaughter in knackers' yards, 6949-53. The law is the same in England, Ireland, and Wales, 6954. Has recently prosecuted in two cases in Birkenhead for omission to slaughter injured animals in the Atlantic trade, and the same law would be effectual in the Irish traffic, 6955-6. There have been hundreds of prosecutions of drovers for cruelty in discharging cargoes of cattle, 6961-2. Does not think the law requires amendment, but considers that officers of the society should be allowed to go on board ship in all cases, 6963-70. The society does not work in Ireland, but the Dublin and Cork Societies watch embarkation, 6971-3. The reports as to the condition of cattle landed from America and Ireland are very satisfactory, 6977-8. Inspection is allowed at Liverpool and there is little to complain of in the way the cattle are treated, and improvements have lately been made in the landing-place at Liverpool, 6979-82. Has had satisfactory reports as to the condition of cattle on board from an officer of the society who made voyages during last summer and up to October, 6983-8. Tail-twisting was formerly a common offence, but is now rare, 6996-7. There have only been about five convictions for tail-twisting in the past year, 6998. Has not had any large number of complaints as to broken tails, 6999-7000. Has not seen any case of ammonia blindness, but would not be surprised at it, 7001-3. Cruelty is the causing of unnecessary pain, 7004. The goad exhibited is recognised, and does not perforate the skin as improper goads used to do, 7009, 7016. To avoid argument as to the meaning of the word "vehicle" in the 12th section of the Cruelty to Animals Act pro-

COLAM, JOHN—cont.

ceedings are generally taken under 2nd section, which also covers cases of neglect, 7021-5. The inspector who reported last year mentioned that ventilation was improved, that there was no overcrowding, and that fittings were in accordance with the Privy Council Order 7028-31. The air in the holds is poisonous, but convictions could not be obtained on that ground, 7032-4. A report was made for the society as to ventilation by Mr. Warrenner 18 or 20 years ago, 7037-8. There are no cases of dishorning now, 7039-40. "Pithing" should be encouraged, as it would prevent dishorning, which is illegal, and cannot be humanely done after a certain age, 7041-5. The mates of vessels have been successfully prosecuted with respect to carriage of animals, 7049-54. No application for permission to inspect vessels at Deptford has been made since the Board of Agriculture was constituted, 7055-8. Is in communication with the Dublin Society, 7059-61. Would personally approve of a prosecution for defective ventilation to bring the matter before the police, 7069. Section 2 of the Cruelty to Animals Act is the effective one. It should be amended by the insertion of the word "permit," 7079-84. Section 12 is also useful, and many hundreds of convictions have been obtained under it, but the question whether a ship is included under the term vehicle has not been raised, 7085-7. The provision as to compensation is not important, 7088. The word "wanton" in the preamble of the Scotch Act should be expunged. It was contained in the preamble of the old English Act, and was made use of by the defence to raise questions of intention, 7089-95. Thinks officers of the society should have statutory powers of entry, but what is most practicable is the extension of the system of permission, 7096-102. General control over persons using the goad would be sufficient, 7103-6. The holes in hides made by goads are easily distinguished from the perforation of the warble fly, 7109-12. The inspectors of the society do not visit markets to examine carcasses, 7123-5. The scratches by which pigs are marked are 18 inches long. It is difficult to prove who does it, 7126-8. Several convictions have been obtained as to conveying "in calf cows" by rail, and the practice is decreasing, 7129-33.

"COLUMBA" SS.: 3251.

COMBINATION OF CATTLE TRADERS: 3239; 3342.

COMBINATION OF SHIPOWNERS: 3240-3; 3255; 3708-9; 4485.

COMBINED INSPECTION: 6297-9; 6374-6.

COMBINGS OF HATCHWAYS: 1759; 2008; 3068; 3268-76; 5853.

COMMITTEE OF 1869: 10.

COMPENSATION: 3379-81; 3557; 5079-81.

COMPETITION: 3011-3; 3165; 4329; 4523-5; 5053-60; 5118; 5525-8; 6216-7.

COMPLAINTS: 670-2; 795-8; 3445-9; 6214-9; 6360-1.

COMPULSORY INSURANCE: 3399-403; 3481-92; 3713-8; 3893-6; 4208-11; 5354-8; 6274-5.

CONDENSED WATER: 6408.

CONDITION OF CATTLE BEFORE EMBARCATION: 119; 569-72; 634; 677-89; 1107-8; 1487; 2561; 2896; 3439-41; 3967; 4423-5; 4816-9; 5404; 5862; 5890; 6602-3; 7140-2; 7154-5.

CONDITION OF CATTLE ON LANDING: 2725-32; 2855-63; 2992-5; 3011; 3057-9; 3101-4; 5180; 5857-61.

CONTRACTING-OUT: 27; 61; 69; 131-4; 181-3; 3433; 3483-5; 4321-5; 4413-4; 4575-80; 4646-9; 6106.

CONTROL OF CATTELMEN: 2452; 2508-11; 2610-11; 2803; 3129; 3196; 3367; 4811; 5515-6; 6066-8.

CROSS BATTENS: 1901; 2592; 2708-10; 2881-3; 4712-3; 5915-6.

CROSS CHANNEL SERVICE TO GLASGOW: 2996-7.

CRUELTY, DEFINITION OF: 7004.

CRUELTY. See ILL-USAGE.

CUTHBERT, JAMES (analysis of his evidence). Represents Clyde Shipping Company, 5261-2. The average passage from Cork to Glasgow is 30 hours; from Waterford to Glasgow 24 hours; from Limerick to Glasgow 36 hours, 5263-7. Limerick boats have often to lie a day or two in the Shannon with cattle on board, 5268-70. At Cork the Clyde Shipping Company has a cattleyard for 200 to 300 beasts, divided into pens, with water in each pen, 5271-4. Forage is supplied at the request of owners, but few avail themselves of it, because many cattle are shipped on the evening of the

CUTHBERT, JAMES—*cont.*

same day they are bought, 5275-9. Cattle are fed and watered on board, being reached by alleyways, running the length of the steamer, 5280-1. Cattle are carried on the main decks, 'tween decks, and lower hold; there are alleyway on each, 5282-7. Has screw steamers, 5288. Ties the cattle with heads amidships, 5289-91. Waters cattle in moveable troughs, 5292. Cattle always eat what is provided, 5295. On the voyage from Waterford half a stone of hay is provided, from Limerick $1\frac{1}{2}$ stones; from Cork 12 lbs. per head, 5296-301. Cattle should be fed on a voyage of 24 hours, 5302-5. Straw litter is provided as bedding, and the cattle lie down during the voyage, 5309-10. Has no difficulty in grading cattle for rates, 5317-9. Grades can sometimes be kept distinct, but a shipper of different grades may wish to have them together, 5320. At Limerick the cattle are shipped in a floating basin; at Cork the gradient is very slight; at Waterford they are shipped from pontoons, 5322-9. Has used goads in Ireland and Glasgow for 18 months, with satisfactory results, 5331-4. Cattle are loaded by company's servants, and attended by the crew, 5335-8. Free passes are given, 5339-40. Has never heard of tails being broken, and owners would complain if such a thing happened, 5341-4. Carried 25,090 cattle last year, and claims to $\frac{1}{2}$ per cent. were made for cattle, dead and injured, 5346-50. Formerly offered two rates, but found this system unsatisfactory, 5354. Has a rate of 13s. 4d. to cover death, and 33s. 4d. to cover injury and death, 5355-7. Beasts that cannot walk when on shore are paid for, 5358. Has made allowances for injuries in cattle which have been landed a fortnight before, 5359. Depends entirely on natural ventilation, which is found sufficient, even when the ships are detained, 5365-9. Has tried Roots blower, but found it did not work satisfactorily, 5370-3. The height of the 'tween decks is 7 feet, and of the lower hold 6 feet 6 inches throughout, 5376-7. It is well known in the trade that cattle are carried at company's risk, and if any tails had been broken claims would have been made, 5388-92. Some classes of cattle are carried better in the lower hold, 5393-6. Has not many claims for injuries discovered after slaughter, 5404-6. Has not experienced any falling off of trade between Ireland and Scotland, 5407-9. It would be impossible to land all cattle at one place, 5413-5. Has received no demand from the trade for improved accommodation, 5416-8. The arrangement of fittings in all the Clyde cattle boats is the same, 5419-24. Does not carry on weather deck except in fine weather, 5423-31. There are four men to a watch on the Clyde boats, but in bad weather the whole crew turn out, and a premium is given on cattle brought in good condition, 5432-8. Has not gone into the question of mechanical ventilation for 12 years, 5439-40. Clyde boats do not overlie like the Burns' boats, 5441-4. The length of the gangway is 30 feet, but the steamers come up with the rising tide, 5445-8. Has landed cattle in case of fog, but not often, 5449. Cattle are often shipped without getting water, 5459-61. Shifting boards are fitted into grooves in iron stanchions, 5463-3. The shifting boards are not pinned into the grooves, 5469-73. Carries very few fat cattle, but not fewer than formerly, 5474-6. Has refused to take cattle in stormy weather, but generally it rests with the captains whether they will put to sea or not, 5477-81. Agrees generally with the evidence of Mr. Burns, 5490-3. The Clyde Company take the responsibility, and pay according to the claim of the consignee, 5495-9. Saw a report on the Irish cattle traffic five years ago, 5506-10. Had the same ventilation as Mr. Burns, but found that it did not act, 5511-4. The men in charge of the cattle should be under the control of the captain, 5515-6. The cheaper of the two companies' risk rates is the more used, 5522-4. There is keen competition from the West with the railways, which tends towards cheapness, not better accommodation, 5525-31. Does not find cattle suffering from want of ventilation, 5534-9. Once landed cattle at Bowring, owing to fog, 5540. Allowances are made on the ground of policy, not legal liability, 5541-2. The Limerick passage is often worse than the American, 5543. Does not think the same arrangements are necessary on short channel passages as on long, 5545-8. Amount of space allowed to cattle is 18 square feet to 14 square feet, 5549-52. Shifting pens are practically always reserved on the Limerick, Cork, and Waterford boats, 5553-7. Considers Mr. Rooth's cattle fittings impracticable, 5561. Cows calving on the passage generally die, 5564-5.

D.

DAVIES, DAVID (analysis of his evidence): Ex-president of Liverpool Butchers' Association, and represents Salford Butchers' Association, 1053-4. Damage done to cattle is often invisible while the animal is alive. Pain affects the fibres of the meat and turns its colour, 1060. In one instance damage was done by a projecting gangway end, 1062. One-third of the beasts brought from Ireland are damaged, 1064. The average depreciation on all Irish cattle is 10s. per head, 1065. In one instance the hides of seven bullocks were found on slaughter to be quite separated from the carcasses, owing to trampling, 1068-9. Sheep suffer little, but swine are overcrowded, 1072-4. Cattle sometimes gore each other in transit, 1075-6. Stick marks disfigure the carcasses, and cause a depreciation of a farthing a pound, 1077-8. Injuries from goring are not so serious from the trade point of view as injuries from trampling, 1081. Cattle are fasted for 24 hours before being killed, but water is given to them, 1082-5. Responsibility should be fixed on ship-owners so that more attention may be given to cattle during transit, and cattlemen properly controlled, 1086-91. Insurance rates do not cover damage if the cattle walk ashore, 1093-7. Vessels of larger beam should be employed in the trade, and further powers should be given to the Board of Trade, 1098-101. The size of pens should be reduced, and not more than four cattle carried in any pen, 1102-3. Goads should be used, 1106. No proper provision is made at Liverpool for landing cattle, 1109. The loss is on fat cattle, not stores, 1114-7. Butchers would pay 10s. additional for cattle if guaranteed against injury, 1121. Cattlemen should be provided by ship-owners, 1133-5. Carriage of cattle from ports from which only small vessels run should be prohibited, and the cattle railed to other ports, 1136-8. All cattle over two years old should be tied, decision as to age to rest with company's servants, 1140-8. Goads should not be too long or too sharp, 1149-52. Licenses to drovers should be granted by local authorities, 1153. American and Canadian cattle are, as a rule, free from injury, 1158-9. The nature of the more serious injuries would show whether they were received before or after shipments, but minor damages might be inflicted anywhere, 1171-8. Goads do not mark carcasses or injury hides, 1181. Most consignments are sent without a drover, 1185-6. About one-third are brought over by dealers, and these come better, 1187-90. The opinions of the witness are shared by all Lancashire, Manchester, Salford, and Wakefield, 1193-7. An unsuccessful attempt was made about 1886 to press the condition of cattle transit on the attention of the Government, 1198-1203. From October to Christmas more than two-thirds of the cattle are injured, 1204. Cattle as loaded at present could not be brought to a trimming pen, 1216-8. Bruised meat is not saleable, 1219-23. Shipping companies are responsible for the greater portion of the damage, 1224-6. A Government inspector should travel in vessels carrying a certain number of cattle, 1232. There is no legal remedy against the shipping companies, 1244-7. States and Canadian cattle are landed in better condition than Irish cattle, owing to competition, 1252-9. Cattle should be tied with their hind quarters to the bulwarks, 1282. Gradients might be made less steep if the gangways were fore and aft. The gradient from the quay at Dublin is twice as steep as at the landing stage, Liverpool, 1295. Cattle might be landed elsewhere than at Clarence Dock, 1296-8. Trimming pens should be provided, 1301. There should be an attendant for every 30 or 40 beasts in rough weather, 1302-3. It often happens that cattle are carried on 'tween decks in charge of two men, 1311-6. Larger vessels would be more stable and alleyways could be provided, 1317-8. Cattle are seldom trampled on in railway trucks, 1330-1. It would be difficult to bring cattle from various parts of the ship to the trimming pen, 1336. A beast may walk ashore though trampled on, 1337-41. Owners should not be allowed to take the risk, 1345. The walk-ashore clause makes insurance useless, hence owners of cattle prefer to take the risk, 1346-9. The loss does not now fall wholly on the butcher as they can buy American cattle. The grazier bears part of the loss, 1350-8. Cattlemen should be part of the ship's crew, 1369.

DELAY BEFORE DISCHARGING: 3385-90; 6508-13.

DETENTION BY FOG: 2875; 3469; 3976; 4383.

DETENTION ON BOARD BEFORE SAILING: 2558; 2569; 2572; 2776-7; 3604.

DETENTION DUE TO CONTRACTING OUT: 27-8; 61-9; 122; 131; 4414; 5215.

DEPRECIATION: 118-20; 387; 352; 1060-70; 1110-5
1350; 1378-88; 1454; 1463; 1564-9; 1712-3; 3057-60
2191-3; 2815-22; 3006-9; 3218-21; 3374-6; 3583
4334.

DISHORNING: 38; 561; 712; 716; 1075-6; 1989; 2530-1;
2691-4; 3124-6; 4213; 5994; 6288-91; 6367-70; 7039-
46.

DIVISION BOARDS: 839-47; 915-7; 919-20; 6056-7.

DRAWING OF CATTLE: 28; 3267; 3370; 3419.

"DROMEDARY" SS.: 5089-91.

"DUKE OF ARGYLL" SS.: 2720; 2999; 3053; 3114;
3138; 3282; 6560; 6568; 6626.

"DUKE OF FYFE" SS.: 4852-3.

"DUKE OF LEINSTER" SS.: 6560; 6563; 6626; 2720-6.

DURATION OF TRANSIT: 3749-50; 3829-40; 4297-9;
4900-7; 5040-8; 5263-70; 5545-8; 5595; 5612-4;
5704-7; 5748-51; 5831-6; 5987; 7157; 7243-4.

"DYNAMIC" SS.: 1237-8.

DWYER, JOSEPH (analysis of his evidence): Cattle dealer of
Roscrea, Tipperary; brings 7,000 to 10,000 cattle a year
from Dublin, Waterford, Cork, and Limerick to Glasgow,
3733-8. Passage lasts from 16 to 48 hours, 3739. On the
Limerick boats there are alleyways, and cattle are fed
and watered, 3741-6. Cattle generally arrive in bad
condition, and more cattlemen are required, 3747-8.
Has had 162 cattle 11 days on board ship between
Limerick and Glasgow owing to a storm, 3749-53. On
arrival, delivery was refused by clerk in charge, until a
paper was signed stating that the cattle arrived in good
condition, 3754-60. The cattle were fed while lying at
Kilrush, 3761. Has seen 10 to 20 per cent. of cattle
with broken tails, horns off, or injured eyes on the
Limerick route, 3771-7. Has had experience of broken
limbs, blindness, and broken hips, 3778-91. Shipped
6,000 to 7,000 on the Dublin routes last year and only
lost two, 3797-8. Lights should be provided to give
the cattle courage, 3799-800. Sends over lots of 12 to
150 cattle, but does not send cattlemen with them
because the shipping companies are supposed to look
after the cattle, and it is not customary for owners of
cattle to send men, 3805-15. Cattle at Templemore
get no food or water at the fair; are kept in bunches
with sticks; get no food at station; are 5 to 10 hours in
train to Dublin, where they may or may not get food
and water; are shipped from 5 to 6 o'clock, and reach
Glasgow between 11 a.m. and 3 p.m. next day, when
they get food and rest for an hour, and then are
watered, 3821-43. Twenty hours is the longest time
beasts go without water, 3844-6. Was present when
clerk in charge refused delivery of the cattle, 3853-61.
Was afterwards partly recouped by the company,
3862-3. Can get no legal redress against carrying com-
panies, 3864-9. Has never seen any responsible official
either side of the Channel or at sea to whom owners
could appeal, 3875-8. Wants better ventilation, more
space, electric light, and covered sheds, 3879-82.
Owners do not send their men with the cattle because
they are not allowed to interfere, and free railway passes
are now stopped, 3883-9. It is to dealer's interest to
feed cattle in transit, and to seller's interest to feed before
a fair, 3890-2. Keeps a man in Dublin to ship cattle
because he buys frequently, 3897-8. Does not book
cattle through, but thinks that through-booked cattle
can be fed and watered, and all cattle get water in the
examining pens, 3899-908. Dublin agent sees the
cattle fed, shipped, and tied up for 3d. per head, 3913-18.
Has ceased to deal in fat cattle owing to complaints of
butchers, 3934. More tails are broken on the Limerick
route than on others, 3936. Free passes are still given
on the boats, 3937-8. If the price of Irish cattle in
England went up 30s. dealers would be compelled by
competition to give more to the producer, 3939-44.

E.

ELECTRIC LIGHT: 537; 614; 1954; 1957; 2025-6;
2571; 2778; 4404; 4806; 5935-8.

"ELEPHANTS": 5853.

"ELLEN VANNIN" SS.: 2020-2.

EGG TRAFFIC: 4631-5.

EXPOSURE: 5602-7.

F.

FAIRS: 647; 648; 654; 655; 1958; 1973; 2452; 6763-5.

FALLING OFF OF IRISH TRADE: 3010-4; 3163-5;
4826-7; 5216; 5407-6; 5474-6; 5773-4; 6934-9.

FASTING BEFORE SLAUGHTER: 1082-5; 1400-5; 1613;
2654-7; 3983.

U 81072.

"FENELLA" SS.: 2020.

"FERN" SS.: 2140; 5804.

FLEMING, JOHN (analysis of his evidence): Has travelled
as foreman bullock man 40 years between Dublin and
Liverpool, 2424-7. Is in the employ of owners of cattle,
2428-9. Takes charge of the cattle in Dublin and
delivers them at the pier head, Liverpool, 2433-4.
Would approve of the use of the goad, 2437-8. Tail-
twisting is sometimes necessary, 2439-41. The tail
is bent, not broken, but sometimes the skin is broken,
2442-3. Has never had to complain of ventilation,
2446. Pens hold six to eight cattle, 2447. Always
grades his cattle, 2448. Bullock men are under no
control. Cattle are much beaten at fairs, 2452. Feeding
of cattle in Dublin is at the option of the owner. Not
many owners feed their cattle, 2456-9. It would not be
practicable to tie up cattle for feeding before shipment,
2474-5. The officers of the ship do not interfere in the
management of cattle, 2476-8. Considers the present
system of tying up cattle satisfactory, 2480-3. Has no
difficulty in getting at injured cattle, 2484-5. Would
kill an injured animal for fear of the Humane Society,
2486. Would not approve of tying beasts with their
heads towards the middle of the ship, 2494-5. Has
known cattle go mad, but not in connexion with loading,
2496-9. It would be difficult to get efficient men as
cattlemen, 2500-6. Has seen six or seven dealer's men
on board but they were under no control, 2508-10.
Has no experience of any boats but the City of Dublin
boats, 2521.

FOOD AND WATER DURING TRANSIT GENERALLY: 28;
281-90; 1029; 1437-9; 2640; 2963
-4; 3626-39; 3823-46; 7198-204;
7230-2.

" " DURING TRANSIT BY SEA: 105; 1398-9;
1488-9; 1938-9; 2176-83; 2461-2;
2635-7; 2873-5; 3745-6; 4368.

" " DURING TRANSIT BY LAND: 2641-2.

" " AT PORT OF EMBARKATION: 33; 287-
9; 455-8; 573-7; 591-7; 669; 1953;
2456-60; 2474-5; 2559-60; 2774-5;
3027; 3903; 4296.

" " AT PORT OF LANDING: 109; 290; 2172
-5; 2562-6; 2638-9; 2658; 2666-
84; 2750-1; 2772; 2837-42; 2866-72.

FOOTHOLDS: 828; 837; 1901; 1929; 2266; 2411-2;
2592; 2708-10; 2825-6; 3064-5; 3177; 3606; 4361;
4612-3; 5645-7; 5673-5.

FREE PASSES: 3889; 3937-8; 4937-44; 5339-40.

FREIGHT: 2034-42; 2152-5; 2728-32; 3234; 3244-9;
3401-2; 3720-6; 3817-20; 4384; 4482-3; 4526-7.

FULFORD, F. A. (analysis of his evidence): Travelling
Inspector of Board of Agriculture, 907. The loss of
cattle on the "Blackrock" was exceptional and due to an
accident to the steering gear in heavy weather, 909-12.
The fittings were satisfactory, 913. Shorter division
boards would have been stronger, 915-6. The loss on
the "Mayo" was caused by the breaking of the division
boards of one pen, 919. The division boards were sub-
stantial, 920. The losses on the "Meath," "Kildare,"
"Leitrim," and "Cavan," were due to extraordinary
stress of weather, 926-7. The loss on the "Blackrock"
might not have occurred if the fittings had been
stronger, 957-64. More accurate and detailed informa-
tion as to losses of cattle would be obtained by a formal
inquiry, 966-76. It is doubtful if cattle should be
carried on the lower hold, 1000. The case of the
"Canopus" was analogous to that of the "Blackrock,"
1008-16. The Board of Agriculture does not supervise
the transit of cattle from Ireland to England, 1022-4.
Formal inquiries are not held as to the normal condition
of the traffic, 1027-9. It might be advisable that an
inspector should cross with the cattle occasionally, 1030-4.
Maindeck hatches are seldom battened down, 1042-3.

G.

GANGWAYS, CONSTRUCTION OF: 3410-1; 4282-7; 5178.

" LENGTH OF: 5024-9; 5445.

" STEEPNESS OF: 27; 70-2; 75-8; 86-95;
188-93; 256-7; 1290-5; 1411-2; 2184-8;
2416-7; 3134-7; 3431; 4400-3; 4518-22;
5178; 5443-8.

GANGWAY ENDS: 1062; 1367-8.

"GENERAL GORDON" SS.: 3398; 3480; 3684-7.

"GLENMIRE" SS.: 4101-2.

GOADS: 36; 73-4; 184-7; 297-307; 311-3; 1106; 1149-
52; 1179-81; 1867-9; 2437-8; 2444; 2623-9; 2809-10;
2956-7; 4156-8; 5008; 5961-3; 5989-95; 7009-16.

F f

GORING: 1075-6; 1081; 2589; 5994; 6288-9.

GRADING CATTLE: 1942; 2448; 2479; 2576; 2780-5; 5317-20.

GRAZIER: 1192; 1354; 1359.

H.

HATCHES: 356; 484-91; 866-9; 1038-40; 1048-50; 1775-6; 3334-41; 4369-70; 6593-8.

HARRISON, FREDERICK (analysis of his evidence): General manager and chief goods manager of London and North-Western Railway, 5896-7. Live stock is carried fore and aft on the main deck and on the fore 'tween decks, 5898-900. The Greenore boats are paddle, others are screw. Their tonnage is 1,200 to 1,500 tons, 5901-2. Pens are the regulation size, 5903. The fittings are sufficiently strong, 5905. Battens are laid fore and aft 19 inches apart, 5906-7. Horned cattle are always tethered towards the side of the vessel or the middle partition, 5908-9. Cross battens would interfere with disinfection and general cargo, 5915-6. The percentage of injured cattle was one in 1,430 on the Dublin and Holyhead route during six months ending 31st March 1893, 5918-23. The vessels have ventilators and a shaft with perforated intakes communicating with the funnel to draw off foul air, 5924-31. Has the cattle holds lighted with oil lamps, 5935. Does not think the cattle require electric light, 5936-8. There is generally one bullockman in each hold where cattle are carried, and free passes are given to drovers, 5939-42. Does not consider that the company are relieved of responsibility when owner's men are present, 5943-4. The arrangements for transferring cattle from the railways to the ships are perfect. Cattle are railled alongside the pens and driven from the pens about 300 yards to the ships, 5945-6. Water is provided, and food if the owners require it. A good deal of food is used on the Holyhead side, 5947-8. Has not heard of pigs being branded with a knife, 5953. Does not think the gangways at North Wall are too steep, 5954. Would not like to use a long gangway, 5956. Has never found the gangway any difficulty to the cattle, 5957. The men who load the cattle are employed by the company and, strict watch is kept against cruelty, 5958-60. Goods are used, 5961-3. The arrangements at Greenore are satisfactory, 5964. At Holyhead cattle are landed into galleries, and walk up a cattle roadway to the yard, 5965-6. There is water at Greenore, North Wall, and Holyhead, and if the cattle do not get it it is because dealers object to their being watered, owing to the fact that it makes them lie down in the trucks, 5976-5975. At Holyhead the foreman of the company would feed any cattle if he thought it necessary, 5967-77. Fat cattle bought in Dublin Market for Liverpool or Salford are not fed on the journey, but probably are fed before going to market, 5978-80. Large importers of store cattle always have them fed before going to market, 5981-2. Sheep are turned out to graze at Holyhead, 5983. Pigs are generally fed in Dublin, 5984. Horses are fed and watered invariably at Holyhead, but not on board ship, 5985-6. The passage from Greenore is about six hours, 5987. During the six months ending 31st March 1894 the company had one casualty for every 870 animals carried, 5988-92. Horns are broken by knocking against the side of the vessel, 5993. Has not heard of many injuries from goring, 5994-5. Sheep and pigs are injured by trampling, and pigs by fighting, 5996-9. The captain is responsible for treatment of cattle, and the cattlemen are under his orders, 6000-2. Offers two rates. The company's risk rate is 9d. higher, and is only used occasionally even in stormy weather, 6006-9. An accurate record is kept of all injury, in order to rebut claims, 6010. Shippers at the lower rate frequently make claims which are not generally entertained, 6011-12. All injuries are fully represented in the statement made, 6016-8. The man in charge of the loading is responsible for filling the pens properly. It is not to his advantage to overcrowd, 6040-2. Ties cattle in every case whether dealers wish it or no, 6043. Shifting-boards are not pinned, 6056-7. The number of bullockmen is regulated by the state of the weather, 6063-5. The bullockmen are under the orders of the captain, but the captain does not interfere in the management of the cattle, 6066-8. At Dublin the passage by which cattle are loaded is at a low level, and passes through the quay wall, 6070-2. Sometimes loads two boats at the same time at the North Wall, but can only load one at the lower level, 6076-7. It is the rule to turn

HARRISON, FREDERICK—*cont.*

sheep into the fields at Holyhead, 6081-2. Would prefer that the dealers' men should accompany the cattle and take charge of them instead of leaving the work to the company's men, 6098-103. Thinks the contract exempting the company from liability is reasonable, 6106. Gives evidence of his personal knowledge and experience confirmed by recent inquiries, 6127-9. Thinks the directors have at times charged the man who is responsible as to overcrowding with neglect, 6146-9. Considers the whole condition of transit by the North-Western boats and boats running to Liverpool is as satisfactory as can be expected, 6152-4. The boats carry general merchandise as well as cattle, according to the season, 6210-3. Has had no complaints as to accommodation, and the competition with the Liverpool companies is in rates. Claims are paid as a matter of policy, 6214-9. Cattle are received in Liverpool in about the same condition as they are landed at Holyhead, 6220-2. Has been down in the boats as they came in, and found some warmth, but tolerably good ventilation, 6223-6. The record of injuries is not a record of claims made, 6227-8. Cattle carried at owner's risk are treated exactly the same as those carried at company's risk, 6233-5. The North-Western Company, as a railway company, are bound to offer alternative rates, 6236-7. Allows the inspectors of the Society for Prevention of Cruelty to Animals to come on board at Dublin, and would not object at Liverpool, 6240-3. The dealers' men would get accustomed to the sea, and would not get drunk on board, and could look after the cattle better than the company's men, 6244-6. The owners ought to send men to take care of the cattle, but as things are now it is better for the cattle that they should be taken care of by the company's men, because the owners' men are not trustworthy, 6247-51. Senders of small consignments should club together to provide a drover, 6252-3. For the ordinary rate the company bear their carriers' responsibility; under the lower rate they are relieved of it, 6254-6. A carrier's contract must be reasonable, 6257. The responsibility of a steamship owner differs from that of a railway company, 6258. The record of injuries received on the voyage is made out as the cattle land, 6268-73. Compulsory insurance would not be legal, 6274-5.

HEAD ROOM: 755; 1325; 2103; 2184-8; 2905-10; 3053; 3269-76; 4441; 4681-2; 4922-3; 5376-7; 5726-7; 5853.

HEAD ROPES: 2482-3.

HEDLEY, MATTHEW (analysis of his evidence): Chief Inspector of the Veterinary Department of Dublin Castle, 523-5. The regulations of the Irish Privy Council are almost identical with those of the Board of Agriculture, 526-30. Lairs are licensed, 530-1. The powers of the Board of Agriculture and Irish Privy Council are almost the same, but the Irish Privy Council have some additional powers as regards exportation, 534-7. The regulations are enforced by Board of Trade surveyors and 41 ship inspectors, 539-43. Prosecutions have taken place, 545-9. There are also portal veterinary inspectors and travelling inspectors, 552-5. Many recommendations have been made to the Irish Privy Council, 556-61. Animals are embarked in a damaged condition, 569-72. Lairage accommodation in Dublin is sufficient, but owners do not take advantage of it, and sometimes opportunity is wanting, 573-7. Dublin lairs are licensed and regularly inspected, 578-81. Owners could, if they chose, feed and water their cattle prior to shipment, 591-7. Veterinary inspectors have no duties outside the cattleyard, but ship inspectors supervise the loading of cattle, 605-11. Cattle are stowed by shipping company's men, but owner's men may sometimes drive them on board, 615-23. In case of overcrowding or cruelty the ship inspectors report to the portal supervisor, who would desire the captain to remedy the matter, 624-8. There is no standard of ventilation, 628-31. Inspectors have no power to detain exhausted cattle unless they are unfit for veterinary examination, nor to detain boats in bad weather, 634-9. The gangways at Dublin are too steep, 641-2. Tail-twisting has been complained of, but is not necessarily cruel, 645-6. There is more cruelty by drovers at fairs than in other portions of transit, 652-6. The treatment of cattle on Irish railways is no worse than in England and Scotland, 658-9. It would not be practicable to delay cattle six hours at the ports before shipping, 663. Cattle have been stopped for being heated, dirty, or over-driven, but the occasion does not often arise, 664-8. Latitude cannot be allowed in the rule against inspection of cattle after sunset, 670-2. Projections in pens, such

HEDLEY, MATTHEW—*cont.*

as iron pin heads, are not interfered with, 673-6. Cattle frequently go on board in a damaged condition, 677. Cattle are examined by the veterinary inspector for contagious disease, and they are frequently put on board in an exhausted condition, 678-82. Cattle could not be detained without interfering very much with trade, 684-9. The supervision exercised by the ship inspectors is sufficient to guarantee a fair amount of protection to animals during embarkation, so that they are not worse off than in the other stages of the journey, 690-709. There have been prosecutions for overcrowding during the last five years, 710-1. Dishorning, if done early, is not cruel, and is an advantage to the cattle, 712-6. Insurance to walk ashore affords protection to cattle, 720-4. An inspector may decide that an animal is unfit for inspection, and require the owner to fit it for inspection by rest before it can be shipped.

HENNESSEY, MAURICE J. (analysis of his evidence): A cattle salesman for 25 years, 4165-7. The rate of mortality is very low, but three or four times during a season store cattle are found suffering from internal injuries, 4168-71. Has frequent cases of fat cattle being seriously bruised, but there are not so many cases of broken ribs as formerly, 4172-5. Prefers screw to paddle boats, 4176-7. Ventilation and light should be improved, 4178-9. Has seen many cases of ammonia blindness, especially in sheep, 4182-6. Stores come to Bristol untied, 4187-89. Fat cattle are tied on some ships, 4190-1. Some boats have cattlemen of their own, and will not allow owner's men, 4192-4. At Bristol some companies have a satisfactory system of compulsory insurance which covers all loss and visible injury, 4195-211. Pens should be smaller, 4212. Horned and dishorned cattle should not be allowed to mix, 4213. No stock should be carried on the poop deck, 4215-6. Vessels should be loaded and unloaded from the same side, 4217. Cattle of different owners should be loaded and discharged separately; this can be arranged for in many cases by paying the cattlemen, 4218-24. After bad weather Bristol butchers offer less money for fat cattle from Ireland, but in fair weather they pay the same for Irish as other cattle, 4228-31. Irish cattle come to Bristol in better condition than to Liverpool, because the boats are better, and the screw boats are water-ballasted, 4232-5. Cattle are landed better at Bristol than at other ports, and consequently do not suffer the same depreciation, 4248-50. Irish beasts as a rule fetch a farthing a pound less than English, but after bad weather 1*l.* to 2*l.* 10*s.* less per head, 4251-4. The boats running to Bristol are for the most part new, 4255-8. Sheep are carried in any part of the boats, 4259-60. The Waterford Steamship Company's freight covers the full value. The Cork Company charge a per-centage on the declared value, 4261-8.

HIDDEN INJURY: 1060; 1378; 3019; 3561; 4169-71; 4201; 5404.

"HOLLY" SS.: 5804; 6734.

"HOGARTH" SS.: 5662.

HORSES: 4465; 4698-710.

HOSPITAL PEN. See TRIMMING PEN.

I.

IDENTIFICATION OF INJURED CATTLE: 3987; 3994.

ILL-USAGE: 31; 38; 110-7; 175-80; 586; 604; 613; 624; 645; 649-56; 798; 1215; 1397; 1412; 1483; 2452; 2694; 3067; 3607; 4486-7; 4549-53; 4783-6; 6983.

IMPROVEMENTS IN CARRYING CATTLE: 3305-26; 4435-6; 6285; 6404-5; 6773-5; 6832-4.

INQUIRIES: 24; 762; 838; 930-1; 973-6; 1026-9; 6352. INSPECTION OF CATTLE: 49; 52; 537; 635-7; 664; 672; 7143.

INSPECTORS OF BOARD OF AGRICULTURE: 206-15; 337; 6281-2; 6353-6.

" OF BOARD OF TRADE: 539; 732-47.

" OF LOCAL AUTHORITY: 217; 2548; 2711-18; 2884.

" OF IRISH PRIVY COUNCIL: 543; 550-5; 674-5; 3094.

INSURANCE: 720-4; 1093-7; 1343; 2000; 2061-8; 3250-3; 3396-403; 3545-60; 3728-30; 4195-211; 4261-8; 5051-2; 5127-36; 5617-8; 5708-10; 6006-9; 6254-8; 6661-2.

IRISH CATTLE TRADERS AND STOCK OWNER'S ASSOCIATION: 3361; 3402; 3574.

"IVY" SS.: 5803.

J.

JUSTICE OF PEACE COURT: 2686.

K.

"KILDARE" SS.: 926-7; 4459-60.

KIRKWOOD, J. ANDREW (analysis of his evidence): A flesher in Glasgow and ex-president of the United Fleshers' Society, 1748-9. The damage done in railway transit is small, 1752. Gangways have to be placed crosswise in the ship instead of lengthways. The Atlantic ships' gangways are placed from corner to corner of the hatchways, 1759. Wearings to gangways should be constructed of proper fencing, 1760-3. Pens should be 13 feet by 8 feet, 1766. Straw litter should be provided, 1767-8. Has frequently seen hatchways shut down, 1774-6. Shipowners should provide one cattleman for every 100 cattle, 1777. All drovers in the Glasgow Market hold a license from the Market Trust, which license is suspended for drunkenness, 1778-814. Practical fleshers are appointed to act with the local authority of Glasgow in all matters pertaining to cattle, and it has been suggested that the Irish Privy Council should do the same with regard to cattle transit, 1793-803. Has seen hatchways shut in one instance within a year, 1844-51. There has been no improvement in the condition of beasts received at Glasgow since 1889, 1861. At Glasgow all drovers, including the men who drive cattle from the boats, are licensed, and the system of licensing has checked whacking with ashplants, 1862-6. The Royal Society for Prevention of Cruelty objected to goads at first, but would not now do so, 1867-9. The responsibility for safe carriage of cattle should be put on the carriers, provided they were recouped, 1898-9. Irish cattle boats require to be battened and cross battened, because the Irish boats pitch and roll, whereas American liners only roll, 1901-2. The landing of cattle at Glasgow must not interfere with the more important purposes which the harbour has to subserve, 1905-10. A wharf should be provided on the north side of the Clyde, but Shieldhall would afford better accommodation than exists at present, 1911-5.

L.

LADDERS, DECK TO DECK: 4358; 4440; 4675-80; 4730; 5374-7; 5725; 5932-4.

LAIRD & Co.: 489; 3190; 3202.

LAIRS: 59-60; 578-81; 598-9; 2562-6; 2749; 7156.

LAMONT & Co.: 491.

LANDING OF CATTLE: 1478-80; 2811-3; 2962; 3083; 3385-8; 4418; 5211-2.

LANDING OF CATTLE AT ARDROSSAN: 5031.

" " DOUGLAS: 1956; 2119.

" " GLASGOW: 28; 162-70; 1478-80; 2643-7; 2750-1; 2962; 3083; 3261-7; 3408; 5211-2; 5721-3.

" " GREENOCK: 5031.

" " HOLYHEAD: 5965-6.

" " LIVERPOOL: 28; 72; 89-98; 1109; 3385-8; 3409; 4291; 6979.

LONDON, MAJOR (analysis of his evidence): Travelling Inspector of Board of Agriculture since 1886, 1-2. Powers regarding transit were conferred on the Privy Council by the Act of 1869, and were exercised by an Order of Council of 10th August 1869, 3-9. A Departmental Committee was appointed in 1869, and made recommendations as to pens, footholds, ventilation, and disinfection of cattle boats, 10. These recommendations were adopted in the Orders of 1871 to 1886. The Act of 1878 gave the Privy Council more general powers, but not more powers as regards ships, 11-22. The evils existing in the present system of cattle transit are due to the want of proper attention to cattle in transit, carrying cattle in the lower hold, want of alleyways, steepness of gangways, contracting out, unnecessary mixing of consignments, want of rest, food, and water, and improper landing-places, 24-8. Cattle are frequently in a distressed state when shipped, 29-32. Food and water can be obtained at the Irish ports, 33-5. Recommendations have been made by travelling inspectors as to caretakers, licensing of drovers, the use of the goad, dishorning, 36-42. Gives numbers of cattle, sheep, and swine brought from Ireland to England since 1890, 43-8. Cattle are inspected before shipment, and may be detained, 49-53. The arrangements made for cattle before shipment at Dublin are satisfactory, 56-9. Dublin lairs are licensed, 60. In contracting out the owner is party to the contract, 61-9. Gangways are very steep at North Wall, Dublin, and Nelson Dock, Liverpool,

LONDON, MAJOR—*cont.*

70-2. Goats are allowed in some places, and are preferable to sticks, 73-4. Owners should send their own men with large consignments, 81-4. Gradient of gangways are very steep at Dublin at low tide, 86-8. The gradient is minimised at Princes Dock, 89-94. Ventilation has improved, 100. The shifting boards are strong enough, 101. Food and water are provided at Liverpool, 107. Cattle arrive from Ireland in fair order, 114-5. Scotch and American cattle come in better condition than Irish, 116-7. The recommendations of Committee of 1869 as to pens, footholds, and ventilation are carried out, 121-5. No trimming pens are provided, 129. Cattle are overcrowded, 130. Improvements have been made by shipowners since 1889. The regulations are carried out by Board of Agriculture and Irish Privy Council, 150-6. The number of cattlemen is not sufficient, 160-1. The landing at Broomielaw is not satisfactory, and the trade object to Shieldhall, 162-70. The regulations of 1871 have been fairly successful, 171-4. Beating of cattle may be excessive, but cases of extreme cruelty are rare, 175-80. If there were no contracting out, companies would carry more expeditiously, 181-3. The use of a reasonable goad would decrease suffering, 184-7. The gangways at Glasgow and Nelson Dock and the bridges from Princes Landing-stage and quay are often very steep, 188-93. It would not be practicable to feed cattle packed in pens, 194-6. Cattle packed loosely enough to feed would suffer in bad weather, 197-8. If Irish stores were carried in the same way as American cattle it would materially increase their cost and cause delay, 199-205. Travelling inspectors are not instructed to travel with cattle from Ireland, but they are required to observe the methods of transit and report breaches of regulations, 206-14. Local authorities are responsible for enforcing regulations as well as the Board, 217-8.

LAW AS TO CRUELTY TO ANIMALS : 6949-54.

LEGAL REDRESS : 3864-70.

LEISHMAN, JOHN (analysis of his evidence): Is president of the Glasgow United Fleshers' Society, and has been a wholesale and retail fletcher in Glasgow 30 years, 1558-63. The average deterioration on Irish cattle, even when apparently well carried, is 3s. a cwt. discount for suspicion, 1564-7. In a recent instance a Glasgow butcher lost 44l. on 18 cattle, 1568-9. Cattle come better from Derry and Belfast than from Dublin, Waterford, Cork, and Sligo, 1571-2. The greater part of the damage is done on the sea passage, 1573-7. Cattle should be littered, 1580. Feeding is not necessary on a voyage of 12 hours, but water would be beneficial, 1581. The attendance given at present is not sufficient in stormy weather, 1585. Inspection in New York of cattle ships is minute and arbitrary. In this country there should be some court of appeal against an unreasonable inspector, 1597-9. The Clyde Trust should provide a landing-stage and sorting-pens for cattle, 1609-10. Water is provided at the Glasgow slaughterhouse, 1611-2. Would fast cattle for one night before killing, 1613-7. Cattle come fairly well from Skye and the Orkneys, 1632-4. There is probably no difference before transit between an Irish shorthorn and a Scotch shorthorn, 1641-4. The cattlemen should be employed by the shipowner, and under the orders of the captain, 1665-7. One cattleman could attend on 100 cattle, 1668-71. Alleyways should be provided, 1672-3. Owners would not be willing to pay extra freight, but it would be to their interest to do so, 1685-6. The increase in the value of cattle would go to Irish graziers and dealers, 1688. The steamship companies are not responsible for landing-places, 1691-4. In a sea passage there must always be some depreciation, 1719. Veterinary inspection is of no advantage, 1723-7. Sheep are seldom damaged when in wool, 1732. The landing at Glasgow might be improved by a floating stage or cuts in the quay. The cuts would not damage the quay, 1742-5.

"LEITRIM" SS. : 926-7.

LETTER FROM IRISH STEAMSHIP ASSOCIATION : 6802.

" " SIR WILLIAM KAYE, C.B., Q.C. : 5010.

" " ULSTER SOCIETY FOR PREVENTION OF CRUELTY TO ANIMALS : 2222.

LICENSING OF CATTLEMEN : 2465-7; 2604-9; 2802-3; 3071-3; 3128; 3187.

" OF DROVERS : 36; 38; 459-64; 1152-3; 1230; 1778-84; 1862-6; 1995; 2468-9.

" OF SHIPS : 279; 1518; 2696-793.

LIME : 2395-7.

LITTER : 1580; 1696; 1767; 2825-6; 5309-10; 6049.

LIVERPOOL LANDING-STAGE. *See* PRINCES LANDING-STAGE.

LOADING OF CATTLE : 3035; 4476-7; 5587-9; 5960; 6971-3; 7177.

" " AT ABERDEEN : 5576-8; 5598.

" " AT BELFAST : 4885-91; 7177-81.

" " AT CORK : 5271-3; 5322-3.

" " AT DUBLIN : 5945-6; 5960; 6070-9.

" " AT LARNE : 4892-7.

" " AT LIMERICK : 5323.

" " AT LONDONDERRY : 4898-9.

" " AT WATERFORD : 5328-9.

LOCAL AUTHORITY : 217; 1420-5; 1476-7; 1787; 2736-9; 2749-51; 3207; 6767-8.

LONDON STICKS : 3035-7; 3415-6.

LOWER HOLD : 1000; 1982; 2086-97; 2138; 2278-9; 2286-7; 2392; 2447; 2534-40; 3053; 3412-4; 4407; 4608-9; 4633-42; 4650; 4794-7; 4864-6; 5200-1; 5393-401; 6019-23; 6589-92.

LYING DOWN : 473-9; 5628-9; 5968.

M.

MAIN DECK : 4964; 5067-8.

MCCALL, JAMES (analysis of his evidence): Principal of Veterinary College, Glasgow, veterinary surgeon, 35 years inspector of Board of Agriculture and of local authority of Glasgow, 2545-8. Has had experience of Irish cattle traffic in connexion with foot-and-mouth disease, and still occasionally inspects vessels, 2549-52. A veterinary surgeon should be stationed at every port of embarkation, 2566-7. Understands that cattle are sometimes put on board six hours before the boat starts, 2558. Some cattle are fed before shipment, but has seen cattle shipped without food, 2559-60. Has seen cattle shipped in an unfit state, 2561. Reception lairs should be provided at every port of landing, 2563. There are private reception lairs at Glasgow, 2566. Inspectors should have power to detain cattle for 6 to 12 hours, 2567-8. Cattle should not be shipped more than two hours before starting, 2569. Tying up is not usual, and when resorted to is not always properly carried out, 2584-7. Tying cattle with their heads in opposite directions exposes to them to injury from horns, 2589. Pens should be of a size to contain six two-year olds, 2590-1. American cattle are carried with their heads towards the middle of the ship, 2595. The "Olive," of Laird and Co., is partly fitted like an Atlantic ship. Has not observed improvement in the condition of cattle brought in the "Olive," 2598-601. Captain should have authority to slaughter injured cattle, 2613-3. The use of the stick should be prohibited, it injures the cattle and is cruel, 2623-4. Has never seen injury by a goad, 2625. An improper goad is used at Glasgow, 2626-9. Food and water are provided at Glasgow at the railway stations and private lairs, 2638-9. A bullock that has been well fed can fast for 24 hours, 2640. Suggests that all cattle should be landed at a special shed on the north side of the Clyde, but cannot suggest a suitable place for such a shed, 2643-7. A pivot gangway, worked by a crane, should be used for loading and unloading cattle, 2648-52. Stores should be detained in Glasgow as they are not sold there, but are passing through, 2658. Considers that the average deterioration in fat cattle is 20s. to 30s. and stores suffer more in proportion, 2659-65. The existing provisions for feeding and watering cattle at Glasgow are sufficient, but are not taken advantage of, 2666-9. Cattle are not allowed to drink during transit, as it is said they are apt to injure themselves by drinking too much, 2674-84. Dishorning is a cruel operation, and the law on this point is uncertain, 2691-3. The damage done by goring is nothing compared to that which results from ill-usage, 2694. Inspectors should enforce regulations during the passage, 2694. If ships were licensed to carry certain numbers of cattle, an official could decide how many of each grade should be put on board, 2696-702. An inspector might arbitrarily decide what cattle should be detained for rest, 2704-7. The difficulty of shipping goods over cross battens might be overcome, 2708-10. An inspector of the local authority has power of entry under section 52 of the Act of 1878, 2711. Visits vessels occasionally and inspects battens, partitions, and disinfection under the Order of 1886. Has compared the condition of Irish and Canadian stores, and the latter arrive in far better condition owing to better treatment in transit, 2725-7. It would not cost so much as 5s. a head extra to carry Irish cattle as well as Canadian, and the trade would be willing to pay extra freight, 2728-32. The local authority of Glasgow has not given any special instructions as to inspection of ventilation, 2735-9. Considers that ventilation is bad, and cattle suffer from it, 2740-4. Has seen cattle weeping at the eyes from ammonia, 2745. Everyone knows that cattle are tem-

McCALL, JAMES—*cont.*

porarily blinded, 2746-7. The unloading of cattle would not require much space on the Broomielaw. One shed should be set apart, 2749. The local authority of Glasgow have provided troughs under the Order of 1886, but have not provided a supply of food, 2750-1. Does not think landing cattle at a special wharf would be a serious thing for shipowners, 2753. Shieldhall is on the wrong side of the river and too far down, but was found convenient for Canadian cattle, 2754-5. Has travelled with cattle to and from Ireland, but not in an official capacity, 2758-65. A veterinary surgeon should inspect debarkation as well as embarkation, 2766-7. The local authority of Glasgow only employ a veterinary surgeon to inspect cattle on landing, when they are endeavouring to keep out disease, 2768-71. The Glasgow Local Authority have not provided accommodation for resting and feeding, because they have no power to compel owners to use such accommodation, 2772-3. Six hours' detention might be sufficient, but three hours would be too short, 2774-5. An experienced practical man could deal with grading of cattle, as is done to some extent in the north of Ireland, 2780-5. Pens should be somewhat smaller and cattle tied athwartship, as in the American trade, 2790-6. A hospital pen should be provided, 2797. Licensed cattlemen should be employed and put under the control of the captain, 2802-3. The percentage of injured cattle is greater in the Irish traffic than in the Canadian, 2804-8. The goad used in London should be adopted, 2809-10. Has never requested the Society for Prevention of Cruelty to watch the landing of cattle, 2811-2. The loss on stores is even greater than on fat cattle, and Scotch farmers prefer to buy Canadian stores, 2815-9. The provisions as to pens in the Animals Order of 1886 are carried out, 2823-4. Battens are provided but not generally, litter or sand, 2825-6. The regulation as to ventilation is carried out to some extent, but is not sufficient, 2827-9. Does not take steps to prevent overcrowding, 2831-4. There is water at the landing-place, but nobody insists that the cattle shall get it, 2839-42. Is not aware of any proceedings against shipowners for breaches of regulations, 2843-54. No one is charged with the duty of inspecting Irish cattle landed at Glasgow, except to prevent disease, 2855-63. Has no authority over cattle before they are landed, 2864-5. Drivers will not let cattle drink on landing, because they are in a heated condition, which condition would not arise if they had had water and sufficient ventilation during transit, 2866-72. Thinks 18 hours is the longest passage to Glasgow, but if there is any passage of 24 hours water should be given, 2873-4. Provision should be made against detention by fog, 2875. Cross battens would make cleansing difficult but not impossible, 2881-3. The number of fat cattle coming to Glasgow is not quite half the number of the stores, 2890-1. Does not know of any reason why the regulation in the Foreign Animals Order as to slaughter of injured cattle should not be applied to Irish traffic, 2892-3. A veterinary inspector should visit the hold after loading and examine the cattle, 2894-6. Defines stores as cattle that are to be fed whatever their age, 2898-900. Has seen SS. "Olive." She is fitted in the usual way, but has Anderson and McKinley's ventilators, 2915-7. Has not visited Ireland for many years, 2919-22. Is aware that cattle are inspected before embarkation, 2925-9. Detention for rest must be at the discretion of an official, 2930-4. Is not aware of any overcrowding, but would prevent it by fixing the number of cattle to be carried, 2941-6. An officer of the Board should travel occasionally with the cattle to see that the regulations are carried out, 2950-5. Has not seen improper goads used elsewhere than at Glasgow, 2956-7. Even small numbers of cattle should be discharged at a special wharf, 2962. The fact that cattle are not safely carried constitutes a breach of the regulations, 2975-9. Has seen injuries on carcasses which indicate the infliction of a large amount of preventible suffering, 2980-5.

MACILWAINE, CAPTAIN GEORGE S. (analysis of his evidence): Has been a travelling inspector for four years, 219-20. Has had naval experience and has a knowledge of shipping, 223. The conditions of the American and Irish cattle traffic are so dissimilar that there can be no comparison, 224-8. The regulations as to transit by sea are contained in the Animals Order of 1886, and are practically enforced, 233-4. The number of animals in one pen should be limited to five, 235-8. Fittings should be of sufficient strength to withstand the weight of animals thrown against them, 240-6. There are difficulties in the way of regulations as to tying up cattle in transit, 247-8. A standard of venti-

MACILWAINE, CAPTAIN GEORGE S.—*cont.*

lation should be laid down of 26,000 cubic feet per head per second, 258-64. Ventilation should be mechanical and by exhaustion of foul air, 267-9. The Board of Trade lays down no rule as to the amount of air, and the meaning of satisfactory ventilation is vague, 270. Ventilation is neglected by attendants, 275. The alleyways in ships running to Glasgow are badly ventilated, 278. Ships should be licensed, 279. Cattle should be fed and watered before shipment, and watered on landing, 287. Goads are preferable to sticks. The Ulster Society for Prevention of Cruelty object to goads, but they are used in Glasgow and Liverpool and London, 296-307. All goads should be made to a regulation pattern, 311-3. Mechanical ventilation should be supplementary to ventilation by means of cows, 317-21. Windsails are not to be depended upon, 322-4. Would be satisfactory if travelling inspector crossed with the cattle occasionally to inspect ventilation, 325-36. Mechanical ventilation is not expensive, 341-6. The only practical test of ventilation is inspection of the hold after a voyage, 349-52. Regulations as to size of pens would not entail much extra expense, 355. The point of steep gradients is not important, 356. Shieldhall would not be a convenient landing-place for Irish cattle, 364-7. Cattle could be tied up on board in cross channel as in oceanic transit, 378-86. There is a loss on Irish cattle which could be reduced by more careful transit, 387-92. Mechanical ventilation would not easily break or interfere with natural ventilation, 327-401. Automatic cows are not satisfactory, 406-18. Travelling inspectors do not regularly supervise landing or transit of cattle, 426-33. The Board of Agriculture do not certify boats for the carrying of cattle, 451-4. It would be desirable that all drovers should be licensed, but there are considerable difficulties in the way, 459-64. The motion of ships depends on circumstances, hence it is difficult to lay down a general rule as to tying cattle, 468-73. It is not necessary to allow cattle room to lie down, 473-9. Hatchways of steamers to Glasgow are said to remain always open, 484-91.

McCORMICK & Co.: 4590.

MARKET TRUST: 1477.

MARKING PIGS: 4048-51; 4055-60; 4488-9; 5953; 6292-4; 7126-7.

"MAYO" SS.: 919-25; 929; 996; 1035-6; 2112-8; 3383; 4001; 4318; 4437-9; 4735-40; 6508-13.

"MEATH" SS.: 925-6.

MERSEY DOCK BOARD: 4721-2.

"MICHAEL DAVITT'S CASE": 3202.

MIXING OF CONSIGNMENTS: 28; 3370; 3419; 3609; 3801-4; 3218-24; 4911-4.

"MULLINGAR" SS.: 4594; 4677.

"MYSTIC" SS.: 2273; 2276; 2390.

N.

NELSON, THOMAS CORMACK (analysis of his evidence): Cattle salesman in Glasgow, largely interested in Irish and Canadian cattle trade for 15 years, 2986-9. Canadian cattle arrive in first class condition owing to care during transit and butchers buy them with confidence. The reverse is the case with Irish cattle, 2992-5. Glasgow has a worse cross channel service than any other port. The boats are small screw steamers, 2996-9. Cattle are rarely tied in the Glasgow trade, 3000-1. As a result the percentage of damage is greater than elsewhere, 3003. Thinks 60 or 70 per cent. of the cattle are damaged owing to treatment on board, 3004-5. The Glasgow witnesses are right in estimating the depreciation higher than the Liverpool witnesses, 3006-9. Irish trade in fat cattle to Glasgow has fallen off 50 per cent. during the last 12 years, 3010-1. Up to last year the trade in stores from Ireland was falling off, but has revived since Canadian stores were excluded, 3012-4. Irish fat cattle would be preferred to foreign if they could be bought with confidence, 3015-7. Canadian stores are preferred because Irish stores may succumb to hidden injuries and will give no return for feeding for three weeks after landing, 3018-9. Has frequently travelled with cattle at sea, and is personally interested in the condition in which they arrive to the extent of 500*l.* a year, 3020-6. Cattle should be fed and watered before shipment, 3027. The danger from water only arises when cattle reach a certain stage of exhaustion, 3029-34. The gangway should be at an easy gradient and London sticks should be used, 3035-7. To prevent overcrowding cattle should be loaded under the supervision of an inspector, 3041. The trade could afford to contribute to the expense of supervision if they could get the cattle in better condition, but they have not

NELSON, THOMAS CORMACK—*cont.*

appointed an inspector as he would have no authority, 3043-52. There should be a cattleman to every 75 cattle. Has crossed in the "Duke of Argyll" when there were 247 cattle and only two cattlemen, 3053. Has seen cattle damaged by combings of hatchways, 3068. On boats from Limerick and Cork there are no cattlemen, 3070. Has had experience of ventilation in bringing cattle from the River Plate, 3074-5. A cut should be made in the quay at Glasgow, 3082. Cattle are drawn among the cargo on the quay; a special place should be provided, 3083. The officers of the Society for Prevention of Cruelty should be permitted to go on board when cattle are being landed, 3084-5. Loss of weight cannot be estimated in the Irish cattle trade as it is in the American, 3088-90. Is not aware of any supervision over loading of cattle at Irish ports 3094-5. Has travelled from various ports and finds cattle are worse carried from Dublin than any other, 3098-104. Ship inspectors should be men of more authority than those employed at present, 3105-6. Has never seen a ship inspector, 3107-8. During the voyage the captain should be responsible, 3121-3. Approves of dishorning but not of mixing horned and dishorned cattle, 3124-6. The tying up of cattle should be left to the discretion of an inspector, 3127. Cattlemen should be experts, licensed, and under control of the captain, 3128-9. Has seen many cattle blind, for some time after landing, 3131-3. It is increasingly difficult to find buyers of Irish cattle, 3149. Representations have been made to the authorities, but without result, 3151-4. Knows one shipper who has some of his cattle tied on Scotch boats, but many others have been refused, 3161-2. The falling off in Irish trade to Glasgow has been due more to defective means of transit than Canadian competition, 3163-5. Losses fall to a great extent on butchers, 3170. Has seen hides fall off carcasses owing to trampling from want of proper footholds, 3174-7. A trimming pen should be provided, or, in the alternative, alleyways, 3185-6. Ventilation is only perfect when hatches can be safely battened down, 3188. Provision should be made not for ordinary weather but for storms, 3190. Shipowners have given no reason for excluding the officers of the Society for Prevention of Cruelty, 3191-2. About 27 cattle were suffocated on the SS. "Olive" in September last in fine weather. No authority took any action in the matter, 3202-9. Shipowners should be made responsible through the captain, 3210-1. Many points in the Atlantic system might be adopted in the Irish trade, 3212. Estimates that the cattle he handled last year would have been worth 40,000*l.* more if they had come in good condition, 3218-21. Is a commission agent, 3222-4. Receives most consignments from dealers who cannot cross with the cattle, and so pays the shipowner to take charge of them, 3225-33. The trade would pay higher freight but the shipowner has to consider the carriage of cargo, 3234-7. The trade cannot combine and there is no competition, 3238-43. Has always coupled the request for better accommodation with the offer of a higher freight, 3244-8. The shipowners appear satisfied with present arrangements, 3249. There have been two rates since the "Columba" case, but the insurance rate is disproportionately high, 3250-3. Has reason to believe that there is combination among steamship owners, 3255-7. It is not desirable that there should be a resting-place on the quay at Glasgow, but there should be a landing-place where the cattle could be sorted, 3261-7. About 6 feet would be a reasonable headway, 3268-76. In a case of overcrowding, a Government department could do no more than prosecute and would have as great difficulty in obtaining a conviction as a private person, 3283-92. Therefore an inspector should have discretionary power to prevent overcrowding and to stop the ship if the cattle were not taken out, 3293-9. The regulations have become a dead letter, 3300-1. Is not aware that there have been prosecutions and communications between the department and shipowners, 3302-4. In 13 years there has been no improvement in any single ship, and the condition of cattle imported is growing worse, 3305-10. The recently built vessels are less capable of carrying cattle than the old ones, but the recently built ships of the Nelson line are satisfactory, 3311-25. Mechanical ventilation fails in the Irish trade because the wrong system is adopted, 3329-33. Knows of one case where the hatches were battened down on the "Shamrock," 3334-41. Until the last five or six years there was no organisation to put forward complaints, 3342-3. The condition of cattle coming from Ireland is worse than it was 15 years ago, owing to the introduction of screw steamers, 3344.

NELSON DOCK: 72; 92; 188.

NELSON & Co.: 3317.

NOAKES, GEORGE J. (analysis of his evidence): Marine salvage surveyor, 6381. Has acted for American and Canadian underwriters, the Ulster Marine Insurance Company, and English companies insuring River Plate cattle, 6382-8. Receives cattle and reports to underwriters as to conditions of transit and salvages injured beasts, 6389-92. Steamship companies should provide competent men to slaughter injured cattle, and captains should have power to slaughter 6394-6. No friction is caused by the exercise of this power in the American trade, 6397-400. The Atlantic trade has very much improved since 1890, but in the Channel trade there is room for improvement, 6403. The improvement in the Atlantic trade is due more to public opinion than legislation, 6404-5. No improvement has been made since 1890 in respect to food and water, except that fresh water is used instead of condensed, 6407-8. Advocates the American system of carrying cattle, 6411-4. Cattle could stand up during a journey of 30 hours, but they must be in good condition when shipped, 6416-7. Does not think that the adoption of small pens would materially diminish the carrying capacity of the ship or increase the cost of fittings or general cost of transit, 6418-21. Cattlemen should be employed by the ship where "so many lots are consigned, 6437. In the American trade there are four men to 100 cattle. The men are paid by the shippers, and put on the ship's articles. Some are very competent, 6439-43. The men are virtually in the employ of the shippers. Their wages vary from 50 dollars a voyage to 10*s.*, 6444-7. There is a foreman in every boat, and sometimes two or three, 6448-51. There is no standard of ventilation on the Atlantic steamers, 6453-4. Has had experience of suffocation of cattle in the American trade, but not in the Channel trade, 6455-7. The Channel boats are not well ventilated, 6458-9. Believes ammonia blindness possible, but has not seen a case, and no claims in respect of it have been made, 6460-64. Mechanical ventilation should be auxiliary to natural, 6465-6. Has not seen cattle injured in the Channel trade as in the American through water breaking over the ships' bows, 6470-2. Cattle should be unloaded immediately on arrival. This is usually done at Liverpool, but sometimes there is delay of one or two hours when the boats are waiting to go into Liverpool, 6473-80. Cattle ships should not put to sea in bad weather, 6481-3. Passenger boats must be regular, and are not the worst cattle boats in the trade, 6484-6. The captain should be made responsible for cruelty. In the Atlantic trade there have been about a dozen prosecutions of captains for cruelty, 6487-96. In the case of the "Blackrock" the injured cattle were killed by anyone and in any way. In such cases the captain should send for slaughtermen, 6499-6507. The cattle were left on the "Mayo" for 21 hours, 6508-13. The "Shamrock" lost about 50 cattle through proceeding to sea when she should not have gone, 6515-24. Is an insurance surveyor at Liverpool, 6525-6. Is chiefly concerned with the American trade, 6527-8. Is not a carrier, 6529. Since the inquiry of 1890 American vessels have slowed to make better weather, 6530-2. Gives details as to American fittings, 6536-44. The alleyways should be 18 inches. In the Atlantic vessels they are 2 feet 6 inches, and often wider. There should be one alleyway to each pen, as far as practicable, 6547-53. The Laird boats compare favourably as regards ventilation with the Channel boats, but they could all be better ventilated, 6554-9. In the "Duke of Argyll" and the "Duke of Leinster" on the after 'tween-decks there is practically no ventilation and cattle are loaded there, 6560-66. The pens in the "Duke of Argyll" and "Duke of Leinster" were above the regulation size, and the cattle were shipped in bulk, 6568-71. Beasts cannot stand fore and aft, 6572-5. In the Glasgow boats they are kept up by tight packing, 6576-80. The number of cattlemen on the American vessels is fixed by order, 6581-2. Has less experience of Irish trade than the American, because Irish cattle are seldom insured, but has acted for the Ulster Marine Insurance Company with reference to Irish trade, 6583-8. If cattle are carried in the lower hold it should be independently ventilated, 6589-92. Has never heard of hatches being closed even on screw-boats, 6593-8. Cattle should never be placed forward or abaft the ventilation, 6599-660. Some boats that are too small for the trade carry cattle, 6606-9. The unsatisfactory condition of the cross-Channel traffic is largely due to want of responsibility, 6630-3. If a case like that of the "Blackrock" had happened on an American vessel the cattle would have been killed.

NOAKES, GEORGE—*cont.*

expeditiously and by a competent butcher, 6634-8. A modified form of the fittings of the Atlantic vessels should be used in the Irish trade, 6653-4. Insurance would tend to better carriage of cattle by bringing in another interested party, 6661-62. The manner in which the trade is carried on could be considerably improved, 6663-4. Statements apply to Clyde boats as well as Mersey boats, 6668-70. Captains should be allowed to sail without the cattle in heavy weather, 6671-3. The walk-ashore clause is a matter of rate. It may tend to make captains keep injured cattle alive, but would not if the captains were made responsible, 6678-83. Inspected the two "ducal" boats thoroughly in November 1891, but has not seen them since, 6690-95. The losses on the "Blackrock," "Mayo," and "Shamrock" were exceptional, and such losses occur on Atlantic vessels, 6698-712. In the American trade all cattle are fat, but in the Irish trade they are of all kinds, and regulations as to the number of beasts in a pen could not be carried out, 6713-9. Shifting boards of 10 feet would resist the weather better than boards of 15 feet. The regulation that the fittings shall be strong enough to resist the weight of cattle thrown against them should apply to the Irish as well as the American trade, 6736-9.

NUMBER OF CATTLE IN A PEN: 1139; 1766; 2127-30; 2447; 4421-2; 6713-9.

O.

O'CONNOR, JAMES D. (analysis of his evidence): Is a farmer, and director of the Dublin and Glasgow Steam-packet Company, 4798-800. The company trade between Dublin and Glasgow, and carry cargo, passengers, and cattle, 4801-2. The ships are specially designed for cattle, 4803-4. Some ships have the electric light, 4806. Ventilation is sufficient, and arrangements in accordance with the regulations of the Veterinary Department, 4807-8. Water is provided in the company's yards, 4810. Cattlemen are employed, are under the control of the mate, and are assisted by sailors when necessary, 4811-2. Hospital pens are provided, 4813. The losses of cattle are two in 2,000 for the last seven years, 4814-5. A great deal of injury is due to treatment of cattle before shipment, 4816-9. Prefers to carry cattle at company's risk rates, but two-thirds are carried at owners' risk, 4820-2. Food and water on board is not required, as the passage is too short for it, 4823-5. The trade with Scotland is improving, 4826-7. One to four cattlemen go in each vessel when carrying cattle. Two are regularly employed, 4828-30. There would be more than one man to 100 cattle, 4831-2. The returns do not include cattle dying after landing, 4855-7. Does not carry cattle in lower hold of screw-steamers, 4864-6.

O'CONNOR, JOSEPH (analysis of his evidence): Has been in the cattle trade 21 years. Buys cattle, chiefly fat, in Ireland, and sells them in Liverpool, Edinburgh, Glasgow, and Perth, 3345-54. Had cattle on the "Olive" last November. Complaints were made of the way the cattle were loaded and a few were driven out, 3355-8. Dealers do not know to whom to complain, 3359. An action is pending against the owners of the "Olive," 3360-2. The night when the loss on SS. "Olive" occurred was fine, but the ventilation failed, 3363-4. Sends his own men with his cattle, 3365-67. The landing accommodation is very bad at Glasgow, 3368-70. Butchers object to Irish cattle because they may be bruised and give 1*l.* to 30*s.* less for them than for Scotch cattle of same weight and quality, 3374-6. Has lost many customers since American and Canadian cattle have come in, 3377. There has been little, if any, improvement in cross-Channel traffic of late years, 3378. Compensates customers who complain of bruises, 3379-81. Anticipates depreciation and buys accordingly, 3382. Lost 150*l.* on sales of cattle in Scotland owing to newspaper reports as to "Blackrock" and "Mayo," 3383-4. Has known cattle delayed eight hours at Liverpool before discharging, 3385-86. There should be more gangs of men at Liverpool to discharge, 3387-8. Such delays do not occur at Glasgow, 3389-90. Thinks there should be one cattleman to every 50 bullocks, 3391. Prizes should be offered to captains for carriage of cattle, 3392. Is satisfied with the officers of the City of Dublin, Lamont, and Laird Lines, 3393-5. Ships at owners' risk. The insurance rate is too high as it only covers cattle that are killed, 3396. It is an open question whether insurance rates cover loss through act of God and perils of the sea, 3397-98. Insurance should be compulsory, 3399-40. If insurance were compulsory it would be moderate,

O'CONNOR, JOSEPH—*cont.*

3402-3. Approves of Mr. Rooth's patent fittings, 3404. Cattle should be tied with their heads inwards so as to see each other with an alleyway between, 3405-7. Gangways should be wider and have smoother sides, 3410-1. Objects to lower hold owing to difficulty of driving cattle down and worse ventilation, 3412-4. Each owner's cattle should be loaded separately, 3419-20. Railway service in Ireland is generally good, but there are no "guides" on the cattle banks, 3421-2. The waggons on Irish railways are good, but should have couplings like those used for passenger carriages as in Scotland, 3423-6. The cattle are not now much injured in coming from the fairs to the train, 3427-9. The yards of the City of Dublin Steamship Packet Company are good, but the gangways are too steep, 3430-1. Shipowners should be made responsible for all damage except stick marks, which should be done away with by the use of the goad, 3432-44. No result has generally followed complaints made to officials or companies, 3445-9. Has not seen any person superintending loading except to see the vessel fully loaded, 3451-55. Vessels should be properly trimmed under supervision, 3456-60. The gangway is sometimes left as a hospital pen but is not sufficient, 3463-4. In many boats beasts that go down can hardly be relieved in any way, 3466-7. Ventilation is sufficient in windy weather but not otherwise, 3468-9. Ventilation should be made compulsory, 3470-3. A system of compulsory insurance is in existence at Waterford, 3486-97. Is in favour of pens at railway stations, spring buffers, screw couplings, Mr. Rooth's fittings, feeding and watering, hospital pens, better ventilation, water ballast, and separation of consignments, 3493-501. Shipping companies do not take charge of cattle till on board, 3503-6. Has seen cattle detained at the landing-stage, Liverpool, more than once for eight hours, 3526-30. If shipowners were responsible for the condition of cattle on landing they would improve ventilation, &c., 3533-5. Owners or their men can only accompany large lots, 3536-7. Water ballast is specially required in screw steamers which roll more than paddle boats, 3540-4. Is not compelled to sign risk note but must otherwise ship at high rates, 3545-8. Present insurance rates would be fair if walk-ashore clause were left out, 3549-50. Has not had much experience of shipping at company's risk, 3551-6. Compensation is not paid for cattle that walk ashore and die shortly after, 3575.

"OLIVE" SS.: 2598-603; 2786-7; 2915-7; 2976-7; 3202; 3355-62; 3450; 5888-95.

ORDER OF 1869: 7; 8; 9.

" " 1871: 13.

" " 1875: 14.

" " 1886: 233; 2717; 2733; 2823-42.

OVERCROWDING: 22; 130; 543-4; 628-9; 710-1; 1704-9; 1941-5; 2241-7; 2939-46; 3041-52; 3283-97; 3355-62; 6040-2; 6904-14; 7190-2.

P.

PADDLE BOATS: 2027; 2998; 3344; 4478-81; 4637; 4775-6; 4854.

PASSENGERS: 6484-6.

PATENT CATTLE FITTINGS, Rooth's: 1925-40; 2013-20; 3404; 4463; 5241-56; 5561.

PENALTIES: 1790-1.

PENS: 123; 235-6; 240-6; 249; 377; 502-3; 748; 758; 763; 841-5; 1017; 1021; 1253; 1837-43; 1925-40; 2013-20; 2031; 2447-9; 2574; 2590-1; 2790-1; 2823; 3181; 4963-8; 5463-73; 5574-5; 5591; 5905; 6411-4; 6418-34.

PER-CENTAGES OF INJURED CATTLE: 1204-5; 3004; 4800; 4768-9; 4780; 4815; 5700-3; 5918-23; 5988-93.

"PEVERIL" SS.: 2020.

PIVOT GANGWAYS: 2648-50; 2914; 2935-6; 3080-2.

"PITHING": 7041; 7046.

POLICE: 3356; 3359; 3969; 4387-9; 6763; 6826; 6895.

PORT INSPECTORS: 6354-5; 6754.

PORTAL SUPERVISOR: 627; 3094; 3194-5.

POSITION OF CATTLE ON BOARD: 1928-9; 2492-5; 2584-9; 2593-7; 2792-5; 2876-8; 3405-6; 4363; 4419-20; 5644; 5761; 5909-14; 6410; 6422-4.

POWER OF ENTRY: 337; 2544-5; 2711-8; 4159-61; 6313; 6963; 7055-8; 7096-101.

PRIMA FACIE CASE INSISTED ON BY R.S.P.C.A.: 7069.

PRINCES' LANDING-STAGE: 92; 94; 189; 1287; 1295; 4743-6.

"PRINCESS ALEXANDRA" SS.: 2253.

PRIVY COUNCIL: 3; 6-7; 10; 16; 18.

PRIZES: 3392.

PROD. See Goad.

PROSECUTIONS: 271; 545-9; 585; 710-1; 1818; 1854-5; 2240-1; 2309-14; 2486-7; 3283-92; 3302-3; 3999; 6776-800; 6955-62; 7119.

PUTTING TO SEA IN STORMS: 848-9; 1004; 4616-8; 5477-81; 6481-3; 6671-3.

R.

RAILWAY TRANSIT: 648; 657; 1107-8; 1330; 1435-6; 1751-6; 1961; 1984; 2033; 2148-51; 2641-2; 3421-6; 3640-2; 4656-7; 7161.

RATES: 3250-3; 3396; 3402-3; 3549-50; 4484; 4494-504; 4949; 5127-6; 5150-4; 6006-9; 6254-8.

REBATE: 3023-4; 4330.

RECEPTION SHEDS: 2643-7; 2751; 2756-7; 3083; 3267; 5107; 5413-5.

RECOMMENDATIONS: 10; 12; 36-42; 123-5; 556-60.

RECORD OF INJURY: 6010; 6268-71.

REPORT OF 1889: 5844-5; 6130; 6811; 6868-70.

REPORTS OF INJURY BY CAPTAIN: 6306.

RESPONSIBILITY OF CAPTAIN: 6000-2; 6487-96; 6630-3.

„ OF MATE: 7052.

„ OF SHIPOWNER: 246; 1086-92; 1128-32; 1174-8; 1233-4; 1268-74; 1306; 1343; 1513; 1898-9; 1954; 2111; 2147; 3121; 3171-3; 3432-44; 3503-6; 3533-5; 6254-6.

REST AT PORT OF EMBARKATION: 2561; 2567-8; 2704-7; 2930-4; 3178; 4339.

„ AT PORT OF LANDING: 2562-6; 2772-3.

ROOTH, JOHN (analysis of his evidence): Cattle dealer and butcher 30 years, 1921. Will explain his patent cattle fittings, 1925-7. Under present system cattle are tied to the bulwarks and their heads are injured when there is any motion, 1928. Bulwarks should be padded and cattle stand with their heads towards an alleyway, 1929. Would put two bullocks in a stall and shut them off by shifting boards, 1930. Is informed that the expense of the new fittings would not be more than 50 per cent. extra, 1931. Irish cattle traders approve of the fittings, 1933-4. With alleyways there would be no difficulty in watering cattle. A hospital pen should be provided on each deck, 1939-40. At present companies engage to take more cattle than they can carry, 1941. Prefers to send cattle by the City of Dublin boats though their freight is 3s. higher, 1943-5. Was an eye-witness of the arrival of the "Blackrock," and considers there were too many cattle on board, and some of the fittings were temporary, 1946-50. The cattle were landed in very bad condition, and Mr. Carter, the principal owner, lost 3,000l., 1951-2. Food and water and suitable reception sheds should be provided at ports of landing, 1953. Practical men should be appointed to superintend loading and discharging, 1954. The Steamship Company's yards are not covered in. The City of Dublin Company's yards are good, but cattle slip on the concrete floors and cannot be tied up to feed, 1957. Buys cattle at Mullingar, and feeds and waters them at Dublin if possible, 1958-9. In 19 cases out of 20 cattle are not fed before embarkation, 1960. From time of purchase to arrival in Dublin would be six or eight hours, 1961-2. From arrival in Dublin to embarkation would be two hours, 1964. The sea passage occupies 10 to 24 hours, 1966. Has known cases where the journey from Mullingar to Liverpool has occupied 36 to 48 hours, 1968-70. Has known cases of prolonged starvation owing to detention by fog, 1971. Has one man in charge of cattle during sea passage, 1974-5. The proposed fittings would decrease the number of cattle that a ship could carry by one in seven, 1977. The cost might be met by an increase of 1s. in freight, 1979. Cattle may be greatly damaged and still walk ashore, 1981-2. Injuries received in railway transit differ from those received on the boats, 1984-5. Is in favour of dishorning; dishorned cattle

ROOTH, JOHN—cont.

need not be tied up, 1989-92. Drivers should be licensed men of good character, 1995. There should be a cattleman on the fore part and on the after part of each deck on which cattle are carried, 1996. When cattle are shipped at company's risk all visible damage should be paid for, 2002-7. Damage is often done to the backs of cattle when they are forced under low combings, 2008-12. The patent fittings would not be too costly, would not interfere with stowage of cargo, and would be strong enough to tie cattle to, 2013-20. Electric light is less liable to fail than lamps, but a powerful light is not required, 2025-6. Paddle boats are better for cattle because they have more beam, 2027. The men employed to superintend loading and landing are generally stevedores, 2028-30. Pens should be floored with Staffordshire stable brick to prevent slipping, 2031. Railway loading banks have lately improved, 2033. Shippers pay an extra freight of 3s. for better accommodation, and would pay more if the accommodation were improved. Many people have their cattle fed at Liverpool, 2053. The accommodation at Liverpool stations is bad, 2054. The height between decks in the City of Dublin boats is 6 feet to 6 feet 6 inches. It should be 7 feet 6 inches, 2055. The loss on Irish cattle amounts to 600,000l. or 700,000l. a year, 6057-60. Mr. Carter, who lost cattle in the "Blackrock," had no option of insuring with the company, 2061-8. Would define stores as any cattle under one year, 2075-85. The lower hold should not be used for carrying cattle. It is the worst place for ventilation, 2086-97. A responsible person should be in charge of the cattle, 2106-11. In the case of the "Mayo" no one was found responsible, 2112-4. The accident to the "Mayo" would not have occurred if she had been properly trimmed, 2115-8. When owners take the risk they generally send men with the cattle. It would be better that the cattle should be sent at company's risk in charge of company's men, 2145-7. Irish railway waggons are not as good as English, 2148-51. Shippers of cattle would pay a higher freight to avoid loss. Those who support cheaper and inferior lines do so out of personal grievances against the established companies, 2152-8. Cattle should be detained for food and rest after landing at the discretion of some official, 2172-5. Detention for food and rest before shipment would not be necessary if cattle could be fed and watered on board, 2176-8. Has practical knowledge of the fact that cattle, including stores, will feed and drink during a voyage, 2179-83. To get a headway of 6 feet and a gradient of 1 in 4 a height of about 7 feet 6 inches between decks would be required, 2184-8. Store cattle deteriorate in transit as much as fat, 2191-3. Since better accommodation has been provided in Manx boats the price of Manx cattle in Liverpool has risen 3s. per cwt., 2194-7.

"ROOTS' BLOWER": 343; 346; 4989-5007; 5439-40.

"ROSCOMMON MESSENGER": 7161.

ROYAL SOCIETY FOR PREVENTION OF CRUELTY TO ANIMALS: 1538; 1619-21; 1857; 1867; 2256; 2443; 2486-7; 2811; 3084; 3191-2; 4109-11; 4390; 6240-3; 6312-7; 6963-70; 7214-7.

S.

SALVAGE: 6392.

SCUPPERS: 864; 4428; 6515.

SCONCE, CAPTAIN (analysis of his evidence): Principal officer of Board of Trade, 730. Certificates are granted by surveyors, but they have no legal power, 733-7. The certificates are sent through the Board of Trade to the Irish Veterinary Department, 741. Certificates contain details as to fittings and ventilation. Ventilation is insufficient, 750. Ventilation should be mechanical, but mechanical ventilation is in many cases insufficient, 752. No instructions are issued as to height of deck, 751. Cattle are often carried after the certificate has expired, 761. No formal inquiry is made by Board of Trade as to losses of cattle, 762. It should be made an offence to carry cattle without a certificate, 767. There would be no advantage in holding a Board of Trade inquiry as to losses of cattle, 780-3. The general condition of the traffic should be improved, 783-6. Mechanical ventilation might reasonably be required, 787-9. No authority is responsible for supervision of transit from Ireland to England, 799-810. Board of Trade inspectors do not take note of size of vessels nor stability, but only of internal fittings, 822-32. When cattle are not tied footholds should be in both directions, 833-7. Inquiry in any case of loss would lead to discovery of cause of loss, 838. Fittings should be stronger, 838-42. Division boards should be shorter, 843-4. Board of

SCONCE, CAPTAIN—*cont.*

Trade inspectors see all fittings in place, and notice if the division boards are worn at the ends, 845-7. The Board of Trade could not conveniently prevent vessels starting in rough weather, 848-9. A record of certificates is kept in Dublin and Belfast, but not at other ports, 850-3. Certificates are renewed as opportunity arises, 854-8. No certificate has been refused, 863. Scuppers should be grated, 864. The Board of Trade inquiry on the "Blackrock" had reference only to the ship, 870-1. The case of the "Blackrock" was quite exceptional, 871-6. The certificates are an intimation to the Veterinary Department that the regulations are carried out, 882-5. The Board of Trade inspectors require two ventilators in a covered hold, independent of hatches, and in a suitable position, 886-91. The use of ships' steam power to drive ventilators would not be contrary to Board of Trade regulations, 892-8.

SCREW STEAMERS: 2027; 2069; 2998; 3344; 3543-4; 3651; 3665-7; 4478-81; 4637; 4775-6; 4854; 5288.

"SHAMROCK" SS.: 3337; 6482; 6515-20.

SHEEP: 1072; 1731-4; 1736; 2284; 4182-6; 4259-60; 5820-6; 5983.

SHERIFF'S COURT: 2686.

SHIFTING BOARDS. *See* DIVISION BOARDS.

SHIFTING PEN. *See* TRIMMING PEN.

SHIELDHALL: 165-70; 364; 1550-7; 1629; 1911-2; 2754-5; 5108.

SHIELDS FAN: 2580-2.

SHIP INSPECTOR: 551; 608-14; 3105-6; 5960; 6754; 6830-1; 6880-98; 7143; 7167; 7224-9.

SIZE OF VESSELS: 824; 1098-101; 1105; 1136-8; 1317-8; 6606-9.

SLAUGHTER OF INJURED CATTLE: 2371-2; 2486; 2613-4; 2892-3; 3987-93; 4473-5; 6359; 6394-400.

SLINGING OF CATTLE: 2282-3; 4716.

SORTING ACCOMMODATION: 1609-10; 1745-6.

SOUTH AMERICAN TRADE: 3314-5.

"SPRINGERS": 4450; 5564; 5879; 6272-3; 7129-33.

"SPURS": 85.

STABLE BRICK FLOORING: 2031; 2121-5.

STABILITY OF VESSELS: 825; 1317; 3418.

STANDARD OF VENTILATION: 258-66; 270; 349-52; 480-1; 521-2; 630-1; 748; 859-61; 899-906; 2577-83; 4045; 4992-6; 5733-4; 5865-70; 6453-4.

STANLEY CATTLE MARKET: 2121.

STEVEDORE: 2029; 3356.

STICK MARKS: 505-7; 1077-80; 1228; 3441.

STORE CATTLE: 200-1; 286; 1116; 1387-8; 1473; 1504-11; 1759; 2037; 2079-85; 2180-1; 2191-3; 2532; 2658-65; 2752; 2815-9; 2890-1; 2947-9; 3013; 3018.

SUFFOCATION: 262; 271-2; 1418; 1937; 2253; 2340; 3202; 6455-7.

SUPERVISION: 314-5; 404; 535; 605-11; 690-709; 804-5; 1022-34; 1954; 2611-2; 2695; 2950-5; 3041-52; 3094-5; 3293-4; 3300; 3451-2; 3875-8; 4061-2; 5144-9; 6281-3; 6301; 6324-32; 6839-44; 7187-9.

SWINE: 1073-4; 1731; 1734-5; 4714; 5984.

T.

TEDCASTLE & Co.: 2069; 2072; 4590.

TAIL-TWISTING: 645-6; 1982; 2439-40; 2570; 3370; 3772-4; 6996-7; 7174-6.

TANNERS: 6995.

TEMPLEMORE: 3822.

TENNANT, MAJOR JOHN TRENCHARD (analysis of his evidence): Principal of the Animals Division of the Board of Agriculture, 6279. The duty of the Board of Agriculture as regards transit is to protect animals from unnecessary suffering, 6280. Inspectors of the Board occasionally visit ports and vessels, but inspection on the English side of the Channel is of very little avail, 6281-2. Regular inspection of ships during the passage has not been required, and it has been considered inexpedient to employ detectives, 6283. Has frequently been

U 81072.

TENNANT, MAJOR JOHN TRENCHARD—*cont.*

been in the hold with cattle, 6284. Made frequent voyages with cattle in 1878 and in 1882, and occasionally at other times, and considers that the condition of affairs improved from 1878 to 1889, but not since, 6285. Prevention of cruelty to animals comes within the cognizance of the Board of Agriculture, sec. 32 of the Act of 1878, 6286. Has no personal or official knowledge of ammonia blindness but has heard it mentioned by dealers, 6287. Considers that much of the suffering of cattle in transit is caused by their horns. Has been struck by the absence of reference to this point in the evidence, 6288-9. The law with regard to dishorning is uncertain, 6290. Dishorning except by a qualified veterinary surgeon should be prohibited in the case of cattle over a certain age, 6291. Never heard of marking pigs with knives. The Board would be disposed to leave it to owners to stop the practice but would interfere if it became general, 6292-6294. Inspection by the Board's officer is for structural conditions as well as protection from disease, 6295-6. There is no arrangement for combining inspection with the Board of Trade and such an arrangement might transfer the action of the Board, 6297-99. If cattle died on board through want of ventilation the Board could obtain a conviction without an inspector's evidence; if cattle did not die the evidence of an inspector as to their condition would not be of any use, 6307. It is difficult for Government to deal with the sufferings of cattle; magistrates require very clear evidence in departmental prosecutions, 6302. Ill-usage generally occurs when there is a sudden increase in traffic on short routes, 6303. The Board of Agriculture might with advantage have further powers to insist on a report in all cases of loss and to authorise local authorities to control drovers, 6305-8. The Board have powers to compel local authorities to enforce the Act of 1878, 6309, but have never exercised the power for purposes of transit, 6311. The S.P.C.A. has done a good deal, 6312. Would not give further legal powers to inspectors of the society, but shipowners should be encouraged to admit the inspectors of the society, 6313-7. There is no supervision exercised by the Government over cattle in transit, 6324-26. Is of opinion on the whole that there should not be any regular inspection during the voyage, but occasional inspections might possibly have some useful results so long as the trade did not expect too much from them, 6327-32. The result of proceeding against steamship companies is not generally encouraging to owners of cattle but it is not advisable that the Government should assist the owners to recover damages, 6336, 6334. A semi-official inquiry is invariably directed by the Board when cases of loss are reported. Such inquiries are more useful than formal inquiries, 6352. The nearest travelling inspector is instructed to inquire into cases of loss, 6353. The duties of port inspectors are confined to questions of disease, 6354-55. Power to slaughter injured cattle should be given to the master of a vessel. It would not be advisable that a general power of slaughter should be given to an inspector, 6359. It is very rare that specific complaints are made to the Board as to injury to cattle, 6360-63. Would suggest that reports should be made by the master of the vessel whenever a beast dies during the passage, 6364-6. Has seen horrible injury from goring both when the cattle were tied and when they were loose, 6367-8. Dishorned cattle are difficult to tie up, but it is not so necessary to tie them as they are generally docile, 6369. Reports as to want of ventilation come either from the inspectors at the port or from an owner. Such reports are rare, 6371-3. If the Board of Trade surveyors inspected cattle boats in England it would be by the sanction of the Board of Agriculture and would stultify any proceedings the Board might take. The Board of Agriculture should go by results and the inspectors of the Board of Trade could not refuse a certificate if the bare requirements of the order were fulfilled, 6374-76. Reports of injury from market authorities would not be useful as the cattle could not be traced, 6377-78.

TEPID WATER: 2963-4; 3130.

THROUGH BOOKING: 3658; 3899-904.

TRAMPLING: 3176; 3466; 4406; 8996.

"TRAMP STEAMERS": 2364-5; 3619.

TRIMMING OF VESSEL: 3691.

TRAVELLING INSPECTORS: 2953-5; 6754.

TURNBULL, GEORGE (analysis of his evidence): Represents the Clyde Steamship Owners' Association and Laird and Company, 5689-61. Carries cattle three times a week from Dublin to Glasgow in screw steamers on the main deck and fore and aft 'tween deck, 5694-98. Has carried 17,000 cattle during past year between Dublin and Glasgow, and has had eleven claims for fatal accidents and three for injuries, 5699-703. The voyage from Dublin to Glasgow would be 16 to 18 hours exclusive of time of landing, 5734-7. Offers an insurance rate through Lloyd's like the Aberdeen Company, 5768-13. Shipper do not generally take the insurance rate, 5713-14. It is immaterial to the company whether cattle are carried at insurance rates or not, and it makes no difference in the care taken of the cattle, 5715-20. The worst gradient at Glasgow is 25 degrees and the gradient at Dublin is easier, 5721-3. Uses 50 feet gangways, 5724. The incline of the cattle ladders is 33 degrees, 41 minutes, and the clearance from the combings 6 feet and 6 feet 8 inches, 5725-7. Four or five ships are ventilated by forced draught upon Anderson and M'Kinnell's system, which is calculated to renew the cubic quantity of air in five to seven minutes, 5728-40. The system is not costly to work and is intended to supersede natural ventilation when necessary, 5743-5. The voyage from Sligo to Glasgow in 21 hours, and from Westport to Liverpool 36 hours, 5748-51. Carries 4,500 cattle in the year from Sligo. Has no special arrangements for feeding and watering them there, 5764-7. Carries regular cattlemen, one to each 'tween deck and more in bad weather, under control of the captain, 5768-72. Trade in 1893 was better than in 1892, 5773-4. Agrees with the evidence of Mr. Burns, 5775-7. Has had very few complaints of injury till recently, 5778-9. Has crossed in all weathers, but does not go into the hold, 5784-5. Does not tie the cattle, except bulls, springing cows, and such fat beasts as dealers may wish, 5786-7. Is confident that the trade in fat cattle has not diminished, 5788-9. The sheds are empty on the days when cattle arrive, 5790-1. Does not carry cattle in any hold of less height than 7 feet, 5807-9. The mechanical ventilation is kept always working, 5812-4. Carries sheep sometimes in summer from Westport to Liverpool on the weather deck; cannot say if they are fed, 5820-7. On the voyage from Sligo the company do not take hay, but dealers are urged to do so, 5823-30. Does not remember any instance of prolonged detention, but such detention might take place, 5831-6. Does not know anything of ammonia blindness, 5841-2. May have seen the report of 1889, 5844-8. The arrangements of the Laird boats are much the same as those of the Burns' boats, except as to ventilation, 5849-50. The lowest clearance is 6 feet, and the height of cattle is not generally more than 5 feet, 5851-3. The condition of cattle on landing is generally good, 5857-8. Understands that if cattle are shipped wet, they do not stand the voyage well, 5862-3. On the "Olive" 1,400 cubic feet of air per minute are forced into the 'tween decks, which hold about 115 medium sized cattle, 5864-70. Has had cases of accident to calving cows, and thinks they should not be carried, 5879-81. Does not use water ballast, but carries a sufficient amount of permanent ballast, 5884-7. The loss of 14 cattle by suffocation occurred on the "Olive" after she was fitted with the new ventilation. The ventilation was working, but the cattle were shipped wet and exhausted, 5888, 5895.

TYING UP: 204-5; 247-8; 282-6; 468-73; 1141-8; 1336; 1472-4; 1506-11; 1239-90; 2019-20; 2480-3; 2492; 2789; 3000-3; 3127; 4969; 4996.

V.

VENTILATION: 10; 253-80; 352; 748-54; 886-91; 1774-6; 1937; 2094-7; 2248-9; 2522-8; 2827-9; 3060-2; 3188-90; 3468-9; 4511-7; 4683-90; 5924-31; 6554-67; 7032-4.

" **AUTOMATIC:** 406-18.

" **MECHANICAL:** 267-9; 316-29; 401; 787-9; 892-8; 2139-40; 3114-5; 3329-33; 4765-6; 5370-3; 5728-34; 5864; 6465-6.

" **NATURAL:** 321-4; 5365-7.

VETERINARY INSPECTOR: 2548; 2556; 2567-8; 2766-7; 2894-6; 2925-9; 6760.

W.

WALK-ASHORE CLAUSE: 1237; 1241; 1346-49; 1943; 1991; 1882; 2144; 3396; 3575; 6678-83.

WATER BALLAST: 987; 2092; 3418; 3540-4; 4235; 4863.

WARBLE FLY: 7110-1; 7135-6.

WATSON, EDWARD (analysis of his evidence): Managing director of City of Dublin Steam Packet Company, 4269-71. Improvements have been made in sailing of vessels, gangways, and lighting, 4272-3. Represents the Irish Steamship Association, 4279-80. Improvements have been made in gangways during the last 20 years, 4281-7. Sticks are not used on the City of Dublin ships, 4288-9. At the landing-stage, Liverpool, the incline is from the stage to the roadway, 4290-1. The companies have co-operated with the Irish Privy Council in carrying out the regulations, 4292-3. If cattle were in the yard overnight they would be fed by the company, 4296. The average passage from Dublin to Liverpool is 11 to 12 hours, 4297-9. During the years 1891, 1892, 1893, the casualties were one in 2,582 killed, and one in 2,131 injured, in the City of Dublin boats, 4300-2. The return includes all injuries, 4303. Occasionally claims are made on cattle shipped at owner's risk, 4306-7. It would be convenient for shipowners if cattle were rested before embarkation, 4308. Considers that the "Blackrock" was unwisely loaded, 4309. The Board of Trade could have detained her if they had thought fit, 4311. Had two ships in the same storm as the "Blackrock" and there was nothing exceptional in the weather, 4314, 4316. Never knew a case of fittings giving way except the "Mayo," 4318. The regular lines of steamers do not contract themselves out of their liability, 4321-4. If an owner chooses, he can get a reduction of rate and exempt the company from liability, 4325. In average weather, cattle are generally carried at owner's risk; in stormy weather they take the ordinary rate, 4326-8. The same care is taken of cattle shipped at owner's risk as of those at company's risk, 4329. The Dublin company allow a rebate on cattle shipped on Wednesday, 4330-2. Cattle arrive in Liverpool on Sunday for the Monday market, 4333. If cattle suffered a deterioration of from 10s. to 5l. per head, they would not be carried at owner's risk, 4334-5. When cattle which arrived in Dublin after sunset had to be detained for the night, the shippers objected, 4339. There is no reason why the shipping company should take charge of cattle from the railways, and owners would object to the feeding charges, 4340-2. The Dublin company put men in charge of cattle shipped at ordinary rates, generally one man in each hold, 4346-51. The right course is for owners and their men to see after the cattle. Every assistance is given and free passes are granted to dealers or drovers, 4352-6. The angle of the walk-down inclines is not more than 30°, 4358. The height from the inclines to the combings is 5 to 6 feet, 4359-60. Fore and aft battens are sufficient, and cattle should stand athwart ship with their heads to the ship's side, 4361-3. Alleyways are unnecessary, 4364-7. Provision for food and water is wholly unnecessary on board the City of Dublin boats, 4368. The present system of transit is good, and any fresh legislation imposing charges on the shipowners would be disastrous, 4381-3. Butchers will not pay existing rates, but support the cheaper opposition boats, 4384-5. The report of the Liverpool Society is without foundation, 4393. The Irish Steamship Owners' Association consider that the regulations are sufficient, and are carried out, 4395-9. Gangways are only at an angle of 30° at low spring tides, which occur once a fortnight, 4400-3. Electric light is being introduced, 4404. On the City of Dublin boats there is no ill-usage. Cases of trampling are rare. Cattle are carried with equal safety everywhere, and alleyways would be of no use, 4405-12. There is no such thing as detention arising from contracting out, 4413-4. Trimming pens are provided on the City of Dublin and London and North-Western, 4416-7. It would be impossible to alter the position of cattle in ships according to the weather, 4420. Cattle are not allowed by the officers of the Privy Council to be shipped in an unfit state, 4423-5. The ordinary rate of the City of Dublin Company covers all injury, 4426-7. It would be impossible for animals to get their feet down the scuppers, 4428. If injuries existed claims would be made, 4429. The loss falls on the shippers, who claim from the companies, 4430. The company are anxious to carry out improvements suggested, 4435-6. The loss is not heavy

WATSON, EDWARD—*cont.*

after an ordinary storm. The loss on the "Mayo" occurred when the wind was blowing 90 miles an hour, 4437-9. The shipment of in-calf cows should be prohibited, 4449-52. There is no rule as to placing cattle in the different holds, 4453-4. Can only recollect four cases of cattle being long on board without food, 4455-8. The cattle were on board the "Mayo" 21 hrs. 15 mins., 4459-62. Mr. Rooth's plan of carrying cattle would be very expensive, 4463-4. Horses are carried in boxes at 25s., colts are carried at 10s. in pens, 4465-70. Cattle are occasionally slaughtered on board, and the owner always gets assistance, 4473-5. Dealers appear to prefer paddle boats, but there are many good screw cattle boats, 4478-81. There is keen competition among shipowners, 4485. The "Cavan" in the storm of November lost two cattle, not 20 as reported, 4491-3. The Dublin Company could by this escape ordinary risk, but does not, and the difference between their company's risk rate and owner's risk rate is not extravagant. Some other companies contract themselves out of all liability, 4494-502. Would object to smaller pens independently of expense, 4505-9. In the City of Dublin boats cattle do not suffer from want of ventilation, even in a fog, 4511-7. The gangways of the Glasgow Company are similar to those of the Dublin Company, 4518-9. The Dublin Company is a fair sample, 4520. Competition tends to cheapen rates, not to better accommodation, 4523-5. Shippers would not in fact consent to pay higher freights, 4526-7. Cattlemen who cross with the cattle are not in the employ of the company, 4529-32. Cattlemen employed by the job do their work better, 4533. Cattle must be urged on board to some extent, but there is no cruelty, and the same applies to landing, 4549-53. The statement that cattle on the average go without food for 24 hours is without foundation, 4556-70. About one-tenth of the cattle are carried at company's risk, 4578-80. The opposition boats are the Tedcastle and M'Connicks, 4590. The berths of the Dublin Company are only a short distance from the railway. The South Wall shipping place is much further, 4596-8. The City of Dublin Company would be willing to carry out improvements, but does not consider any improvement can be made in respect of attendance, pens, alleyways, ventilation, or battens, 4601-15. Would not send a boat to sea unless the captain said it was safe, 4616-8. Cattle freight does not pay at present, 4623-30. When animals are shipped at owner's risk and some are lost the company are not bound to pay in law, but do so in fact, 4646-9. Many shippers prefer the decks, but the cattle are carried equally well on the lower hold, 4650-1. If railway companies do not give any option, cattle can be forwarded at their risk, 4654-7. Thinks the Board of Trade could detain a ship if the cattle were overcrowded, 4653-64. The steepest

WATSON, EDWARD—*cont.*

angle of the walk-down incline is 30 degrees, 4674-6. The least headway on the City of Dublin boats is 5 ft. 1 in. in the lower hold of the "Cavan," 4681-4692. Does not see the necessity of any improvements in ventilation; has been in the hold and found ventilation as good as it could be made.

WEARINGS TO GANGWAYS: 1760-1; 1810-3; 1823-6; 4918-9.

WEATHER DECK: 5428-9; 5821-4.

WIND-SAILS: 322-4; 1937; 2527-8; 4372.

WHEATCROFT, GEORGE (analysis of his evidence): Inspector of Liverpool Corporation for the purposes of the Contagious Diseases (Animals) Acts, so far as they affect transit by sea, 2236-8. Constantly visits cattle boats to see if the requirements of the Act are carried out, 2239. Has cases in court frequently, 2240. The Act provides against overcrowding, but the term overcrowding has never been interpreted in law, 2241-7. There has been one prosecution in Liverpool for insufficient ventilation, but is not aware of any prosecutions in other places, 2254-9. Has had 10 or 11 prosecutions as to fittings, 2260-5. Has had several prosecutions as to footholds. The regulations on this point are now carried out, 2266-71. There are only two vessels at Liverpool on which ventilation is quite satisfactory, the "Mystic" and the "Blackrock," 2272-7. There is less motion in the lower hold than on deck, 2278. Cattle get down on any deck in any weather because they cannot be reached, and there are not sufficient caretakers, 2279. Cattle are not slung at Liverpool unless injured when a canvas sling is used, 2282-3. Has seen cattle landed very hot, but has not noticed any difference in the condition of cattle from different parts of the ship, 2286-87. Is aware that cattle dealers dislike the lower hold, but thinks it the best part of the ship, 2288-90. American vessels do not carry cattle on the lower hold, 2304-5. The smell of ammonia is very strong on the Irish boats, but not on the American, 2306-7. Has had 150 prosecutions for non-cleansing, 2309-13. Has seen cattle blind, but never heard of ammonia blindness, 2315-8. Has laid information against shipping companies for carrying show sheep in winter, 2319-20. The prosecution for ventilation took place three or four years ago, 2329-30. In preferring lower hold for cattle assumes proper ventilation, 2333-8. Has a right of entry on ships, 2348-50. Has only power to enforce regulations under Animals Order of 1856, but considers these powers sufficient, 2354-5. There is no authority to order slaughter of injured cattle, 2371-4. Cross battens would interfere with cleansing of vessels and handling of cargo, 2411-2. Injured cattle are not slaughtered on board lest the owners should make the shipping company liable, 2418-9.

BOARD OF AGRICULTURE.

R E P O R T

ON THE

Distribution of Grants for Agricultural
Education in Great Britain

IN THE

FINANCIAL YEAR

1893—94;

WITH AN APPENDIX,

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

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1894.

[C.—7495.]

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GRANTS FOR AGRICULTURAL EDUCATION.
1893-94.

R E P O R T.

TO THE PRESIDENT OF THE BOARD OF
AGRICULTURE.

SIR,

I HAVE now the honour to submit the following report on the administration of the Parliamentary grant in aid of agricultural education in Great Britain, during the financial year ended 31st March 1894.

Out of the total vote of 8,000*l.* entrusted to the Board of Agriculture for educational purposes, the necessary provision has been made for the cost of inspection whether arising out of applications for grants, or, as has been the case in 1893-4 in an increasing number of instances, undertaken at the request of county councils. The sum of 7,450*l.*, which remained available for distribution, has been applied in the form of specific grants to the several institutions enumerated in the table appended to this Report, the balance being devoted to the special outlay which was incurred during the past year for the reproduction of the complete series of records of the Rothamsted experiments for the past 50 years. Copies of these valuable records have been supplied by the Board, for the use of institutions engaged in agricultural teaching.

In the allocation of grants the Board have again had regard to the class of instruction provided, the varying local conditions of the institutions aided, and the extent of appreciation and assistance which has been forthcoming from the districts concerned. They have been confirmed by further experience in their estimate of the value of establishing fully equipped agricultural departments in collegiate institutions capable of aiding the work of distinct groups of local authorities charged with the provision of technical education. By this means, at the several centres selected, a sufficient and well qualified staff of instructors is provided for thoroughly training students who desire to pursue a consecutive study of the sciences governing agricultural practice, while the same educational machinery is available for utilising to the best advantage the local expenditure of the considerable sums which are now being devoted by county councils, on a more general and extended scale, to more elementary forms of agricultural instruction.

The collegiate centres established by the several university colleges at Bangor, Leeds, Newcastle, and Aberystwyth, which were reported in 1892-3 to be satisfactorily engaged in operations of the character described, have continued during 1893-4 to develop and extend their usefulness, as centres of educational energy for the surrounding counties, in the several directions explained in the detailed reports furnished in the Appendix.

From these notes of the Board's inspectors it will also be seen that further centres, noticed last year as in prospect, have now been fully equipped, and new agricultural teaching organisations definitely set on foot, on lines more or less similar, at Cambridge, Nottingham, and Reading. The nature and distinctive character of the agricultural instruction provided at each of these places is described in the reports appended.

In Scotland, where the institution of definite centres is being more slowly developed than in England, several of the south-western counties have continued to make use of the facilities for agricultural instruction offered by the central classes provided and by the itinerant lecturers supplied for local work by the Glasgow and West of Scotland Technical College. In Edinburgh a further material advance has been made in reducing into a systematic and consolidated organisation, available for the central and south-eastern districts of Scotland, the separate educational agencies previously aided by the Board. This is being arranged under the guidance of a joint administrative board representing the University of Edinburgh, and the Highland and Agricultural Society. In the hope that ultimately the northern counties will find it to their interest to co-operate with the University of Aberdeen in establishing a generally acceptable scheme for a centre of agricultural teaching at that city, the Board have felt able to continue for another year the provisional assistance granted to the classes locally conducted.

In districts where the system of collegiate centres has not yet attained complete development, and where special sections only of agricultural instruction, such as dairying, have been provided by centrally situated institutions acting in conjunction with the several local authorities of considerable areas, grants have in four instances been continued. These were awarded to the British Dairy Institute at Aylesbury, the Eastern Counties Dairy Institute at Ipswich, the Scottish Dairy Institute at Kilmarnock, and the Bath and West and Southern Counties Society, whose earlier work as a pioneer in this form of educational effort has been widely recognised.

In view of the appreciation expressed at the provision made in 1893 for a special class for the further scientific and practical training of dairy teachers, already engaged in the work of instruction throughout the country, a similar arrangement

was repeated, and a three weeks' course was held in February 1894 at the Yorkshire College at Leeds. This course was attended by dairy teachers from seventeen English and four Scotch counties, and from certain other teaching institutions.

Besides assisting institutions such as the Durham College of Science and the Glasgow Technical College, where lectures on certain forestry subjects are included in the general curriculum, the Board have been again able to repeat the grant towards the cost of the special forestry class established in the University of Edinburgh through the efforts of the Royal Scottish Arboricultural Society and of the Highland and Agricultural Society of Scotland. With the co-operation of Her Majesty's Commissioners of Works, provision has been also made for the continuance of a special course of instruction for working gardeners and foresters in the Royal Botanic Garden in Edinburgh.

So far as the available funds placed at the disposal of the Board by Parliament have not been absorbed by the claims of directly educational grants, such as those above noticed, an endeavour has again been made to continue, although necessarily in most cases on a reduced scale, the assistance given to experimental work. This is now generally conducted as part of their educational course by the collegiate institutions in receipt of subventions. Provision has been made for experiment stations or demonstration plots at each of the Welsh Colleges. A beginning in the same direction has been made at Reading. The experiments of the Glasgow and West of Scotland College, and those of the Durham College of Science in Northumberland and Durham have attracted much local attention; but no provision has yet been made for work of a similar character in connection with the important agricultural areas lying within the sphere of the Yorkshire College.

Direct grants have been given during 1893-4 to the Bath and West Society both in respect of its experiments in seven English counties and of its special research into the conditions of successful cheese-making. The Highland and Agricultural Society in respect of its experiments in various counties in Scotland, and the Research Association for the North-Eastern Counties of Scotland in respect of the inquiries conducted at its station at Glasterberry, near Aberdeen, have been also aided. With a view of utilising the information accumulated by experimental work, whether conducted separately or as part of an educational scheme, various extracts are again given in the Appendix from some of the reports rendered to the Board by the bodies engaged in these investigations.

An intimation was given in last year's report of the readiness of the Board to provide, in the case of county councils desiring

such assistance, an inspection of the agricultural part of their technical instruction work. The Board believe that the services thus rendered have helped to systematise the varying methods of teaching employed by different authorities and promoted a useful exchange of information and experience between the local and central officers. In England the work of Northumberland, Cumberland, and Hampshire, which had been reported on at the request of these county councils in 1892-3, was again inspected in 1893-4, while the agricultural work of Berkshire, Cheshire, Derbyshire, and Essex has been inspected for the first time, and applications for the inspection of more limited and particular sections of their agricultural instruction schemes have been acceded to in the case of the counties of Devon and Oxford.

I have the honour to be, Sir,

Your most obedient servant,

Board of Agriculture,
July 1894

P. G. CRAIGIE.

LIST OF GRANTS AWARDED.

1893-94.

Institutions aided.	Work.	Grant 1893-4.
ENGLAND AND WALES.		
		£
University College of North Wales, Bangor -	Collegiate centre -	800
Yorkshire College, Leeds - - -	Collegiate centre -	800
Durham College of Science, Newcastle-on-Tyne	Collegiate centre -	800
University College of Wales, Aberystwyth -	Collegiate centre -	700
Cambridge and Counties Agricultural Education Committee.	Collegiate centre -	400
University College, Nottingham - -	Collegiate centre -	200
University Extension College, Reading -	Collegiate centre -	150
Bath and West and Southern Counties Society -	Special cheese research and agricultural experiments.	400
Eastern Counties Dairy Institute - -	Dairy instruction -	350
British Dairy Farmers' Association - -	Dairy instruction -	250
SCOTLAND.		
Glasgow and West of Scotland Technical College	Collegiate centre -	600
University of Edinburgh - - - -	Agricultural instruction	450
	Forestry class - -	100
University of Aberdeen - - - -	Agricultural instruction	200
Scottish Dairy Institute, Kilmarnock - -	Dairy instruction -	250
Highland and Agricultural Society - -	Agricultural experiments	200
Aberdeen Agricultural Research Association -	Agricultural experiments	100
Dounby Science School, Orkney - -	Agricultural experiments	25
SPECIAL CLASSES.		
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Class for the instruction of working Foresters and Gardeners in the Royal Botanic Garden, Edinburgh.		150

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I.—EPITOME OF REPORTS ON CERTAIN OF THE INSTITUTIONS RECEIVING GRANTS.

(1.) THE UNIVERSITY COLLEGE OF NORTH WALES, BANGOR.

The Staff of the Agricultural Department of the College has undergone several changes during the past year, the lecturer on agriculture having been appointed to a similar post at the Extension College at Reading, while the lecturer on agricultural chemistry has also left Bangor for the Yorkshire College.

The buildings and equipment call for no special remark this year, except that an increase in specimens is again observable in the biological department, and the museum is now becoming a very interesting one.

The In-College Class during the past year has numbered in all 18; of these 12 were taking the regular two years' course, while one was remaining for a third year. Five other students came for short periods.

Of the 2nd year students, 3 came with scholarships from Cheshire and 1 from Carnarvonshire, and of the 1st year students, 3 again have come with Cheshire scholarships.

Dairying.—This branch of instruction has continued to be promoted under the auspices of the three fixed schools in the counties of Montgomery, Denbigh, and Carnarvon.

The travelling school last year visited an increased number of centres. The number of places at which a full 10 days' course was held was 6. The total number of pupils attending was 55, all of whom took the full course. The instruction given comprised butter-making and soft cheese-making, and the expenses were mostly borne by the Montgomeryshire County Council.

Result of examinations :—

Ordinary certificate in butter-making -	-	15
" " cheese-making -	-	4
Advanced certificate in general dairy work -	-	5

(2.) Denbigh Dairy School :—

Result of examinations :—

Ordinary certificate in butter-making	-	-	8
" " cheese-making	-	-	5
Advanced certificate in general dairy work	-	-	19

(3.) Bangor Dairy School :—

Twenty-eight pupils spent an average of 2 weeks at the fixed school at Bangor during the year.

Result of examinations :—

Ordinary certificate in butter-making	-	-	16
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An improvement in the quality of the butter in the district is reported, and prejudice is being overcome. The sale of modern implements is continuing.

It is expected that this school will be taken over by the Anglesey and Carnarvonshire County Councils, like its fellow near Denbigh, and it is to be hoped that this will be the case, as advantages in every way would be likely to accrue from such a course.

The above results of examination at the three schools when summarised and compared with previous years are as follows:—

Certificates granted.	1891.	1892.	1893.
Advanced certificates in general dairy work -	1	9	24
Ordinary butter-making certificates -	26	48	39
Ordinary cheese-making certificates -	4	11	9

It will thus be seen that a very satisfactory increase has taken place in the number of those who gained the advanced certificate in general dairy work, including of course both butter and cheese-making.

As evidence of the value of the instruction given at these schools, it may be mentioned that old pupils are now engaged by county councils in different parts of Great Britain as teachers of butter-making, or assistants, while many former pupils are now in good situations as dairy maids.

Field Demonstrations.—There seems to be no diminution in the interest taken by the farmers of North Wales in these local stations of demonstration, and the lessons they teach. They were carried on last year in the following counties:—

Carnarvon	-	-	-	-	9 sets
Anglesey	-	-	-	-	11 „
Montgomery	-	-	-	-	3 „
Denbigh	-	-	-	-	8 „
Flint	-	-	-	-	6 „

Of these, 20 had reference to the value of various manures for roots, and 13 related to the manuring of either permanent or temporary grass lands. Details are given on page 41.

As instances of the practical utility of these field trials, and the way in which they are appreciated in the locality, 2 cases may be mentioned. One is that of a farm where the turnips are now regularly manured in the manner found to be best at an experimental station where the land was similar in quality and character to that of this particular farm. The other is that of an agent to a large estate who, after testifying to the very practical nature of the experiments and the benefit derived from the printing of results and their circulation in a tabulated form, states that without the College the farmers could never have been reached, but that, as it is, wide interest has been taken in the experiments, and many farmers (even far away from the district) are following the lessons taught by them.

As a rule the tenant provides land and labour, the College measures out the plots, while the County Council pays for the cost of manures and the travelling expenses incurred by the College in superintending the carrying out of the experiment and in publishing the results.

Extension Lectures.—These have been given at centres in the under-mentioned counties, a large proportion being courses of 4 lectures or upwards :—

Carnarvon -	-	-	-	-	14 centres
Anglesey -	-	-	-	-	5 "
Montgomery -	-	-	-	-	4 "
Denbigh -	-	-	-	-	4 "
Flint -	-	-	-	-	1 "

The attendances seem to have been good, and to have averaged about 50 at each centre. Reports from a variety of local secretaries testify to the useful character of the lectures and their practical effect.

Training of Elementary School Teachers.—Second year courses, consisting as usual of 32 lectures delivered on Saturdays, the subjects being agriculture, chemistry, and physiology, have been held at 2 centres. At one in Carnarvonshire the number on the register was 18, and at the other in Montgomeryshire the number was 10.

The Cost of the Agricultural Department of the College has not materially differed from that in previous years. The total expenses were nearly 2,150*l.*, and were mainly defrayed by County Council grants, amounting to 700*l.*, subscriptions and donations, 580*l.*, and the grant of 800*l.* from the Board.

(2.) THE YORKSHIRE COLLEGE, LEEDS.

The Agricultural Work of this College has been conducted during 1893-4 on very similar lines to those of the previous year.

The In-College class taking the full 2 years' course has numbered 9, of whom 4 were 2nd year students, and 5 were 1st year students. Although the increase in the numbers availing themselves of this course is but slight, it is satisfactory to note that a short winter course organised last year seems to have been a distinct success. This winter course lasted for 10 weeks, and 19 students attended, all, with one exception, being the sons of Yorkshire farmers, and nominated by the councils of the several Ridings. The ages of the students varied from 17 to 25, and the instruction comprised:—

Agriculture - 3 lectures per week and 1 outdoor class.
Chemistry. - 3 " " and 15 hours laboratory work.
Book-keeping- 2 " "

The instruction given, at any rate in chemistry, was naturally of an elementary character, but the aim kept in view was to make the course as complete in itself and as practically useful as was possible in the limited time at disposal. It is to be hoped that the advantages apparent from this class will induce farmers in the county to send their sons for that more complete education and training which can only be given in a 2 years' course.

The External Work of the College has proceeded as before.

Dairying.—The travelling schools, three in number, have as before been at work during the season, butter-making and a certain amount of soft cheese-making, having formed the subjects of instruction. Inspection of all the schools showed that in a general way they were well conducted, at the same time there were a good many minor variations as regards the teaching, and it might be well if the College, allowing full latitude for the peculiarities of individual teachers, were to lay down, with greater precision than is now the case, the lines on which the teaching at each school should be conducted. This is especially of importance as regards the oral instruction, which is liable at times to lose the only character desirable in such cases, namely, that of practical utility.

The number of centres visited in each Riding has been 9 in the North and East and 8 in the West. The attendances were as under:—

Attendances.	North Riding.	East Riding.	West Riding.
Number of pupils taking full 10 days' course	87	86	71
Number of pupils taking lesser periods	33	41	47
Total pupils	120	127	118

Reports from local secretaries as to the value of the classes are of an encouraging and satisfactory character, prejudice is being overcome gradually, while those who have undergone instruction seem to be

reaping the benefit of increased prices for their produce. Soft, or fancy, cheese-making meets with approval, and if properly taken up this industry should prove valuable in Yorkshire.

Extension Lectures.—These, which form so distinguishing a feature of the work of this College, still seem to maintain their popularity. Five lecturers have been engaged in the work, and the centres, at which courses of 10 lectures have been held, have been as under:—

North Riding.—The number of centres was 16, at 2 of which a second course was held. Average attendance 30.

East Riding.—Number of centres 16, at 1 of which a second course was held. Average attendance, 47.

West Riding.—Number of centres 14, at 3 of which a second course was held. Average attendance, 44.

Reports from many of the centres visited testify to the value of the work done and to its appreciation by those for whose benefit it is intended. The subjects have been of the same nature as in previous years, but special mention should be made of one course which was on injurious insects and birds. The former subject is not an uncommon one for instruction, but lectures, in rural districts, on the latter and most important one to farmers is, so far as is known, unique. Its character is indicated by the following extract from the syllabus of the course:—

Wild birds, useful and injurious.—Hawks and owls, their services in destroying mice and beetles.

Birds which constantly destroy injurious insects.—Cuckoo. Nightjar. Peewit. Starling. Tits. Fly catcher. Hedge sparrow.

Birds which destroy injurious insects and weed seeds, but also consume farm or garden produce.—Blackbird. Thrush. Sparrow. Chaffinch. Greenfinch.

The Rook—its destruction of insect pests and consumption of farm produce.

Training of Elementary School Teachers.—Winter lectures and a summer course have again been given. The subjects have been chemistry and botany, and agriculture. The winter lectures were given on successive Saturdays at the following centres:—

Middlesborough.	Average attendance	-	29
Northallerton.	"	"	28
Driffield.	"	"	40
York.	"	"	39
Wakefield.	"	"	20

The summer course of 3 weeks dealt with the same subjects, but was coupled with laboratory work. The number of teachers attending from the 3 Ridings was 45. Attendance at 2 winter courses and 1 summer course qualifies a teacher, as mentioned in a previous Report, to sit for examination for a certificate of the Victoria University, and although the training thus provided is of a higher character than is the case in many other parts of the country, it is a question whether it might not be better for the teachers to be thoroughly trained in one particular science, with a view of teaching such science in its elementary form, or some practical application of it, in the Evening Continuation Schools, rather than in attempting to give instruction on the practice of agriculture, which should be only dealt with by a practical man.

The Total Cost of the Department during last financial year has amounted to over 5,200*l.*; of this the local expenditure reached a total of nearly 3,900*l.*, and was met by grants from the North, East, and West Riding County Councils of 3,862*l.* The balance, consisting of the more central class of expenses, was met by the Board's grant of 800*l.*, by subscriptions amounting to 440*l.*, and fees amounting to 108*l.*

(3.) THE DURHAM COLLEGE OF SCIENCE, NEWCASTLE-UPON-TYNE.

During the past year the new buildings at this College have nearly been completed. They are of a very extensive character and will benefit the Agricultural Department by the increased accommodation afforded.

The In-College Class has numbered 12, viz., 11 students who are taking the full 2 years' course, and 1 who is taking a shorter course. In addition to these, there are several who are taking courses in science preparatory to joining the class next year. Of those taking the full course, 7 are county council students, coming from Northumberland, Cumberland, Hereford, Oxford, Salop, Somerset, and Lincoln. Although the class here, as elsewhere, is not as large as one could wish, it is satisfactory to note that the members have the reputation of being far more in earnest about their work than the average student.

Mention must be again made of the botanical garden which is now attached to the College, and in which a great variety of plants of agricultural interest are being grown, mainly as specimens, but occasionally as forming part of some definite experiment. The garden has lately been further enlarged, and a glasshouse erected upon it for the observation of "insect pests," a variety of which, especially those injurious to trees, are collected and their life history worked out. At a recent visit some very interesting investigations were going on as to a weevil which has lately been attacking black Austrian pines in Glamorganshire, the insect, by means of a few simple arrangements in the house, being "grown" under perfectly natural conditions.

The External Work has been as follows:—

Dairying.—In Northumberland the dairy school, which is now entirely under the supervision of the College, has visited 12 centres, at each of which a 10 days' course was held. The average attendance of those who took the full course, and at the close passed a satisfactory examination, was 9 at each centre.

The examination both in this county and in Northumberland is conducted by the College, in the former case it is oral, in the latter by written paper.

Replies to questions addressed to persons who, since 1892, had obtained butter-making certificates in Northumberland, showed that in a considerable number of cases a better price was obtainable for the butter now produced.

In Durham 11 centres were visited during the year, at 5 of which a second course, and at one of which a third course was held. At another centre a third course was held, but on Cheddar cheese-making, at which 21 students are said to have entered. The average number of those who obtained butter-making certificates at each course was 10.

Field Experiments.—These have been continued during last year with conspicuous success, the farmers in Northumberland and Durham having become so warmly interested in these essentially practical and useful experiments, that already 4,000 copies of the pamphlet wherein the results of 1893 were published have been issued by the College. In Northumberland the field trials were carried out on 20 farms.

At 10 stations the experiments related to the growth of swedes ;
 " 6 " " " to the manuring of grass land ;
 " 2 " " " to the residual value, for oats,
 of manures previously applied to turnips ; while
 " 1 " a 4 years' rotation experiment was conducted, and
 " 1 " the prevention of finger and toe in turnips formed the
 subject of investigation.

In Durham the experiments were conducted on 6 farms, and all had reference to the growth of swedes.

A special report by Dr. Somerville on the results of the trials in each county appears on page 49.

Extension Lectures.—These have been carried on as before in both counties.

In Northumberland it seems that the length of course which is most popular is that of 4 lectures. A larger number were tried, but without success. 22 centres were visited and courses of 4 lectures given at practically all of them. The subjects were chiefly "farm animals in health and disease" and "feeding stuffs," or "manures." The attendances averaged 26 at each centre.

In addition to these, single lectures on the results of experiments were given at 10 centres to large audiences.

In Durham courses of lectures were given at 6 centres, at one of which a second course was held ; the length of the courses, however, was greater than was the case in Northumberland. At 5 of the centres courses of 12 lectures were given, and at the remaining centre 2 courses of 6 lectures. The average attendance seems to have been about 20.

Lectures on the results of experiments were given at 4 centres.

Training of Elementary School Teachers.—A 3 weeks' summer course for teachers was again held at the College, the subjects being agriculture, agricultural chemistry with laboratory work, and the anatomy and physiology of the domesticated animals. Only 7 teachers from Northumberland, and 2 from Durham took this course, though others attended courses on general chemistry, &c. 2 persons (not teachers) from Northumberland took the courses on chemistry and physiology.

During the winter Saturday lectures were given in agriculture, agricultural botany, and surveying, the latter being a very useful, but as a rule too much neglected subject. 10 teachers from Northumberland and 17 from Durham attended the classes in these subjects.

In the future the tendency at this College as in other places will probably be to give the teacher as thorough a training as possible in one pure science, in the belief that he will by this means ultimately benefit lads in the rural districts far more effectually than he would do by attempting to teach anything under the specific head of agriculture.

The expenses incurred in connection with the scheme of the Agricultural Department of the College during last year amounted to 2,630*l*. The county councils of Northumberland and Durham made grants of 500*l*. each to the College, in addition to those made in respect of dairy-work and the training of teachers. The total sums received from both councils amounted to 1,780*l*. For this the College provided (besides the dairy-work, &c.), the necessary number of lectures, and conducted the field experiments. The balance of expenses was defrayed by the Board's grant of 800*l*., and by fees and subscriptions.

(4.) THE UNIVERSITY COLLEGE OF WALES, ABERYSTWYTH

This College has continued its work in a satisfactory manner.

The In-College course is now organised on a good basis and the number of students taking part in it has increased. The students during the past session numbered 12, as against 4 in 1892-3, and consisted of 4 second year students and 8 first year students. Endeavour is made to give the students as good a grounding as possible in the different sciences they take up, so as to be of use to them in after life. For instance, in chemistry they are taught enough to enable them thoroughly to understand an analysis of a manure, food, soil, &c., in veterinary science to enable them to detect disease, to recognise whether it is trifling or serious, and to know how to act both in cases of emergency and of simple malady.

Two students from this College obtained second-class certificates in the recent senior examination of the Royal Agricultural Society of England.

The sphere of the local work of this College extends over the greater number of the counties of Mid- and South-Wales and has been as follows:—

Dairying.—This has occupied a prominent place in the work as in the previous year, 4 travelling butter schools having been conducted throughout the year and at one time 5. The 10 days' courses are now regularly divided so that half the class (which is limited to 12 pupils) churns twice a day for the first week at every centre, and the remaining half churns twice a day for the second week. At the end of this period the two lots come together for a practical and theoretical examination.

During the year the number of centres visited in the counties of—

Cardigan	was 4;	courses held 7;	pupils 61 taking full course.
Carmarthen	„ 9	„ 13	„ 128 „ „
Merioneth	„ 5	„ 6	„ 65 „ „
Montgomery	„ 1	„ 1	„ 11 „ „
Radnor	„ 2	„ 5	„ 46 „ „
Pembroke	„ 3	„ 4	„ 43 „ „

Interest in the subject seems increasing, to judge not only from the number of pupils but from the fact that the schools now stay for longer periods (sometimes 6 weeks) in one place.

During the summer an advanced dairy course lasting 6 weeks was held on the College premises; 25 persons who had previously undergone courses of 10 days' instruction attended. Of these all but one were sent with 6*l.* scholarships by three county councils, one council paying 1*l.* a week maintenance for each of its scholarship holders. The course consisted of thorough instruction in butter-making and the use of the most recent apparatus in connection with it, together with instruction in the manufacture of certain fancy cheeses. Once a week the pupils had elementary lectures and demonstrations on the general chemistry of this subject.

Field Demonstrations.—These were of two kinds. The first were of the regular type; they were carried out at three different centres on grass land and had as their object the determination of the most suitable phosphatic and nitrogenous manures for the district, together with the

most economical proportion in which to apply them. Unfortunately the drought interfered much with what otherwise would have been a useful set of experiments.

The second kind were denominated manurial illustrations. They were really intended to supplement the lectures given throughout the district on manures and manuring, and consisted of definite instruction to farmers generally as to how to manure a certain portion of different crops grown, the only comparison being between the specially manured portion and that treated in the usual manner. As a practical way of bringing before farmers in Central Wales the use of certain manures hitherto unknown to them, the above plan has its advantages, and it is stated that not only were about 2,000 copies of the pamphlet giving the necessary instructions distributed throughout the neighbourhood, but that the use of artificial manures was very considerably increased in the district. Details of these experiments are given on page 58.

Extension Lectures.—These consisted of a course of 6 or less at each centre, but the full number was rarely reached. The subject was most frequently the manuring of crops and was treated as follows :—

In general terms the results at Rothamsted during the last 50 years of the experiments with artificials are described and a comparison made between these and the experiments with farm yard manure. Deductions made from these experiments are then applied to the cultivation of the cereals grown in the district, to potato and root crops and to grass land. The course ends with the use and abuse of lime, and the composition and treatment of farmyard manure.

The extension lectures given have been delivered in the following counties :—

Brecon	No. of centres	3	lectures	9	average attendance	72
Cardigan	"	5	"	18	"	118
Carmarthen	"	14	"	58	"	70
Merioneth	"	7	"	20	"	68
Montgomery, S.W.	"	3	"	7	"	130
Pembroke	"	11	"	11	"	73

Training of Elementary School Teachers.—Saturday lectures for schoolmasters and pupil teachers have been given at the College and also at one centre in Montgomeryshire during the winter, the subjects being agriculture and chemistry. A summer vacation course was also held at the College and instruction given either in the above-mentioned subjects or else in biology. Schoolmasters from various parts of Wales attended and also some from England: the total number attending one or other of the courses being 53.

The actual cost of the Agricultural Department of this College during the financial year has amounted to about 1,900*l.* and has been borne, in addition to the Board's grant of 700*l.*, by county council grants for work done, amounting to 900*l.*, by fees and miscellaneous receipts and by donations on account of experiments.

Seven county councils have appointed the agricultural chemist at the College to be their analyst under the Fertilisers and Feeding Stuffs Act, 1893.

**(5.) THE CAMBRIDGE AND COUNTIES AGRICULTURAL
EDUCATION COMMITTEE.**

The scheme, initiated in the early part of 1893 for the provision, at the University of Cambridge, of instruction in the sciences bearing upon agriculture has been since then carried on and developed in a satisfactory manner.

The support of 9 county councils has been obtained to the scheme, viz., Cambridge, Essex, Huntingdon, Isle of Ely, Leicester, Norfolk, Northampton, East Suffolk, and West Suffolk. With one exception, the above counties not only support the scheme financially, but also offer scholarships in connection with it.

The course during the past year has comprised instruction in chemistry, both general and agricultural, geology, botany, physiology, entomology, physics, surveying and mensuration, and book-keeping. No special provision, however, is yet made for giving definite and systematic instruction in that branch of the subject which, lying midway between pure science and the actual manual work of the farm, is usually described under the name of "Agriculture." The amount of laboratory and practical work done in connection with each subject is considerable. At the same time there is no doubt that a 2 years' course is not long enough, and it is to be hoped that students will be induced to remain for 3 years. In that time they should have acquired sufficient knowledge of the various sciences taught to be able to apply them practically to their work in after life.

The students have the opportunity of making excursions to farms in the neighbourhood, and are expected during the vacation to acquire a knowledge of the practice on their own or other persons' farms.

The class during the past year has numbered 11, while 3 more students have been attending the course on agricultural chemistry. These last mentioned and 5 of the regular class are members of the University.

Examinations.—By a Grace of the Senate, passed on 9th November last, it was decided that the University should institute examinations in agricultural science and grant diplomas. This decision cannot fail to be a matter of satisfaction to all who have the promotion of higher agricultural education at heart, in bringing, as it now does, the University itself into direct touch with the question. The scheme for examinations in the current year is annexed. There are two parts: the first relating to the pure sciences, the second to practical agriculture and to surveying. A diploma will be issued to those candidates who pass a satisfactory examination in both parts.

The Expenditure during the financial year has been met by county council contributions, amounting to 505*l.*, and the Board's grant of 400*l.*

Although the work of the Agricultural Education Committee has been confined to the provision of a course for students at the University, it must not be overlooked that much work has emanated from Cambridge of a similar nature to that which is carried on in other centres through the agency of the Agricultural Departments of University Colleges.

Through the courtesy of the Secretary to the Local Examinations and Lectures Syndicate, information has been received showing that, in the session 1893-4, the following work has been done for county councils in subjects bearing upon agriculture or rural life.

In Cambridgeshire a course of lectures has been given on the principles of chemistry. In Bedfordshire two courses have been given on elementary chemistry. In West Suffolk a course of agricultural chemistry was given; in Surrey courses have been given on chemistry, soils, manures, and plant food, and on diseases of plants; in Kent on diseases of plants and on injurious insects; in Norfolk on botany.

The courses usually consist of 10 or 12 lectures. In addition to the above, nine local authorities gave scholarships for students for the summer meeting at Cambridge, or for vacation courses in chemistry with reference to agriculture.

With reference to this extension work generally it is satisfactory to note in the last published report of the syndicate that "it has been possible to adapt the teaching more closely to the real needs of the districts, and a larger proportion of the audiences in villages have consisted of farmers, gardeners, and others who might be expected to derive special benefit from the teaching given."

In addition to extension work, the conduct and charge of stations of field demonstration has been undertaken by members of the University in several part of the Eastern Counties.

UNIVERSITY OF CAMBRIDGE.

EXAMINATION FOR THE DIPLOMA IN AGRICULTURAL SCIENCE.

SCHEDULES.

THE SYNDICATE FOR EXAMINATIONS IN AGRICULTURAL SCIENCE have drawn up the following schedules defining the range and details of the subjects of examination in Agricultural Science.

The examinations will be partly in writing, partly oral and practical.

A candidate who has passed both parts of the examination to the satisfaction of the examiners shall be entitled to a diploma testifying to his competent knowledge of the Science and Practice of Agriculture; and a candidate who has passed Part I. to the satisfaction of the examiners shall be entitled to a certificate to that effect.

Part I. of the examination relates to—

I. BOTANY.

The elements of the morphology, histology, and physiology of plants, illustrated principally by a study of flowering plants.

The constitution of the ash of plants, including the experimental study of the effect of various external conditions on the ash. The study of the mineral constituents of the food of plants by water-culture and cognate methods. The effect on the plant of the various constituents. The assimilation of carbon including the appearance of the assimilated products, and the necessary gas analyses. The detection and estimation of starch, inulin, and cellulose. The assimilation of nitrogen in the form of nitrate, amide, ammonia, and in the free condition. The detection and estimation of proteids and nitrogenous compounds. The nature of the changes occurring in germinating seeds, tubers, and other reserve stores, together with the translocation of food-materials, and the action of ferments. The detection and estimation of glucose, maltose, cane sugar, tannin, glucosides, oils and fats. The function of the root in relation to the soil: the absorption of water and of salts in solution. The detection and estimation of organic acids and organic salts. The phenomena of growth, especially in regard to external conditions.

The elements of the classification of phanerogams as illustrated by British agricultural plants. The detailed study of the genera of agricultural plants belonging to the natural orders graminæ, leguminosæ, crucifæræ, umbellifæræ, solanacæ, chenopodiacæ, rosacæ, urticacæ. The study of the principal weeds and harmful plants, and of the seeds occurring as adulteration, or otherwise, in commercial samples of agricultural seeds.

The general characteristics of the fungi and the elements of their systematic classification. The characteristics and life-history of the fungi producing the principal diseases of agricultural plants, for instance:—"Damping off" of seedlings, white-rust, mildews, potato-disease, finger and toe, smuts, bant, ergot, rusts. The more common diseases of timber. The remedies in use for fungoid diseases of plants.

II. CHEMISTRY.

The composition and properties of atmospheric air. Diffusion. Hygrometry. clouds, dew and rain. Thermometry and radiation, frost and ice. Water, solution of solids and gases in water, rain, spring, river, and sea-waters, filtration, and softening of waters. Dialysis.

The composition and properties of carbon dioxide and carbonates, oxides of nitrogen, nitrates, ammonia, silica and silicates, phosphates, sulphates, chlorides, potash and soda, lime, magnesia, alumina, and oxides of iron. Oxidizing and reducing agents. Saccharine and amylaceous substances, alcohol, acetic acid, lactic acid, urea, fats and soaps, paraffin oils, turpentine, and phenol. Antiseptics and disinfectants. Nitrification.

Chemical and physical properties of various soils, and the effects on soils of ploughing, subsoiling, draining, burning, and irrigation. Use of lime and marl.

The general chemical composition and use of manures of different kinds, including sewage, soot, ashes, and other town refuse. The chemical composition of bones, apatite, and other phosphates. Determination of the value of different samples.

The composition and properties of milk, butter, and cheese.

Qualitative analysis of substances which may contain ammonia, sodium, potassium, calcium, magnesium, barium, zinc, manganese, iron, aluminium, copper, antimony, arsenic, mercury, lead, sulphur, sulphites, sulphates, chlorides, nitrites, nitrates, phosphates, carbonates, oxalates, acetates.

Simple volumetric and gravimetric analysis of acids and alkalis, lime, oxides of iron, silica, phosphates, carbonates. Hardness of water. Analysis of milk and butter.

III. PHYSIOLOGY AND HYGIENE.

General build of the animal body as it may be seen, for instance, by the dissection of a rabbit. General relations and structural features of the constituent tissues and organs.

Special and characteristic anatomical features of domestic animals; alimentary canal of horse, ox, sheep, pig, and fowl.

The more important elementary facts and principles relating to—

Circulation: nature and properties of blood; mechanics of circulation; influence of the nervous system on the vascular mechanism. Respiration: mechanics of respiration; chemistry of respiratory interchange; ventilation; influence of the nervous system on the respiratory mechanism. Nervous system: general arrangement and mode of action of the nervous system; reflex actions.

Nature, general characters, composition and reactions of the several food-stuffs: proteids, fats, carbohydrates including cellulose; salts; water. Composition of foods used in farming.

Special digestive processes in domestic animals: nature and uses of saliva, gastric juice, bile and pancreatic juice; digestion by means of microbes.

The changes which foods actually undergo in the alimentary canal: rumination; function of the cæcum in herbivora; digestion of cellulose. Relative digestibility of various foods. Absorption from the alimentary canal: distribution of absorbed products over the body; effects and final fate of the absorbed and distributed products.

Excretion of waste: the excretory organs; nature and composition of the several excretions.

Effect of food on the body: income and output of material; income and output of energy as heat and work. Regulation of body-temperature.

Special influence of the several food stuffs on the composition of the body. The physiology of fattening; comparative nutritive and fattening value of proteids, fats, and carbohydrates including cellulose; exemplification of the principles with reference to the foods in general use for feeding and fattening purposes, such as corn, beans, hay, straw, brewers' grains, malt, oil-cake.

The nature and properties of milk: the secretion of milk; the changes taking place in milk after secretion; the effect on milk of feeding and other influences.

IV. ENTOMOLOGY.

The structure of a typical insect.

The characteristics of the principal orders of insects; and those which distinguish the *larvae* of coleopterous, hymenopterous, lepidopterous, and dipterous insect pests.

The life-history of the commoner insect and acarine pests, especially those which attack crops, or are injurious to farm animals. The principal indications of attack and the general appearance of infested crops; the principal measures of prevention and remedy.

V. GEOLOGY.

The fundamental principles of geology, including the elements of stratigraphy and lithology. The classification of rocks according to their origin, stratification, texture, and organic remains. The recognition of the commoner rock-forming minerals.

The application of geology to the work of a farm: the composition, origin, and treatment of soils; effects of different kinds of subsoils; water supply, drainage, and irrigation; minerals of agricultural value; materials used in building, road-making, &c.; quarrying, cuttings, and embankments, in stratified, unstratified, jointed, or cleaved rock.

The use of geological plans and sections, and the identification of minerals and rocks.

VI. MECHANICS AND ENGINEERING.

Mechanics. Mass, velocity, acceleration, weight, density, momentum, energy, work, laws of motion, centre of mass. Friction. Mechanical powers; shafting and gearing. Strength of materials. Trusses. Equilibrium of liquids. Flow of water in pipes and channels. Pumps. Power derived from water-falls; water-wheels and turbines. Wind and wind-mills.

Heat. Sources of heat. Specific heat, heat of fusion and of evaporation, vapour pressure. Quantity of heat generated in combustion. Mechanical equivalent of heat. Second law of thermo-dynamics. Principles of steam, gas, and petroleum engines. Boilers. Construction of valves. Expansion working. Fly-wheels. Consumption of fuel and water per horse-power.

VII. BOOK-KEEPING.

The principles and methods of book-keeping.

Principles of double entry: memorandum or waste-book, day-book, ledger, cash-book.

Balancing accounts: profit and loss and preparation of the balance-sheet.

Discount and interest; consignments; bills of exchange.

Part II. of the examination relates to—

VIII. AGRICULTURE.

Composition of soils (mineral and organic matter, chemical ingredients, &c.). Physical properties of soils. Classification of soils (loams, marls, calcareous soils, &c.). Improvement of soils (physical and chemical). Tillage and implements. Manuring. Rotation of crops; modifications of the ordinary rotation to suit special circumstances. Cultivation of crops (sowing, cleaning, harvesting, &c.). Formation and treatment of pasture. Ensilage. Live stock (breeds, rearing, feeding, &c.). The dairy. Hygiene of the farm yard and dairy. Farm management, including outlay at commencement.

The questions will be of a practical nature and the examination will be in part conducted on a farm.

IX. SURVEYING.

Rules and scales for linear and circular measure. Verniers, measuring rods and chains. Levels. Use of logarithms, and slide-rule. Use of theodolite.

Ordinary rules of superficial and solid mensuration applied to examples. Estimation of volume of a cylinder. Estimation of the weight of a mass from its dimensions and specific gravity.

Ordinary land surveying by chain; levelling; plotting, and determination of areas; working out examples.

Surveying with theodolite. Trigonometric solution of triangles.

(6.) THE UNIVERSITY COLLEGE, NOTTINGHAM.

The organisation of the Agricultural Department of this College has now, owing to the assistance of the Board of Agriculture, been fairly completed. The arrangements differ somewhat from those of other colleges coming under inspection. This College owes its foundation and means for present support mainly to funds provided by the borough of Nottingham, while the Agricultural Department is supervised and managed by the Director of Agricultural Education to the county council. All the help sought from the Board was to enable the College to complete the scheme of agricultural education for the district by the formation of an In-College Agricultural Department.

The In-College Staff, which though mainly intended for the In-College work, is available for county purposes if required, has now been augmented by the addition of an assistant lecturer on agriculture, a lecturer on agricultural chemistry, and one on veterinary surgery, the last-named being a local practitioner.

The class at present at the College consists of 7 second year students, of whom 5 are county scholars, and 6 first year students, of whom 1 is a county scholar. The students mostly come from Nottinghamshire, but 1 comes from Derbyshire and another from Leicestershire; the majority are sons of land agents or farmers.

The course lasts each year from October to May, at which latter date the students are required to go on to approved farms for purposes of practical instruction, and the certificate which may be obtained at the end of the course is only given after proof that the student has had, in all, ten months' practical work on a farm.

One special feature about the work in this College which deserves mention is the manual instruction given to the members of the agricultural class, not only in workshops on the College premises in carpentry and blacksmith's work, but also usually once a week on neighbouring farms in hedging, stacking, thatching, sheep-shearing, &c. The students have also some practical dairy instruction both in butter and cheese-making at the county council travelling schools.

The scientific work carried on at the College is on the same lines as that which takes place elsewhere, and therefore calls for no special comment. The examination papers which were set at the end of the past session seem, as regards those subjects which they included, to have been practical and comprehensive.

It should also be stated that the scheme for a fixed dairy school, for at any rate the three counties of Nottingham, Leicester, and Derby, is in active progress and that an essential part of that scheme will be that the scientific instruction given at the school shall be obtained through and by means of the University College.

The cost of the department (which was only thoroughly started during the latter half of the financial year) amounted to a little over 600*l.*, and is exclusive of the salary of the chief lecturer and director of the Agricultural Department, which is paid for by the county council direct. The Notts County Council contributed 200*l.*; 130*l.* was received by way of fees; while the Board's grant amounted to 200*l.*

(7.) THE UNIVERSITY EXTENSION COLLEGE, READING.

This College was formed in 1892 by a fusion of the old Reading Science and Art Schools with the University Extension Association of that town.

The newly-formed College, situated as it is in the midst of a district of an almost purely agricultural character, soon turned its attention towards making provision for agricultural instruction, and there is every expectation that under its influence, and by its means, the work of agricultural education in Berkshire and the surrounding counties will be given a system and completeness such as the Board, by according support to local centres of this nature, endeavour to bring about.

The formation of the Agricultural Department may be said to date from December last, when a lecturer in agriculture and head of the department was appointed in the person of Mr. D. A. Gilchrist, B.Sc., who had previously occupied a similar position at the University College of North Wales, Bangor.

An In-College course is being organised at this College, but though the full details of it are not yet finally decided, it bids fair to be of a decidedly extensive and practical character.

It was of course impossible that much work, other than that of organisation, could have taken place during the last quarter of the financial year, but one useful piece of work was started and carried out in the shape of a class for dairy teachers, mainly intended as a continuation of instruction for those teachers who attended the special class promoted by the Board last year at Bangor.

Out of the 25 who had attended that three weeks' course, 12 teachers took such interest in the work that they were willing to come to Reading for a further and considerably more lengthened period. The syllabus of this course is appended.

The actual number attending was 16, of whom 12 had attended the Bangor class. Those who gave them instruction reported favourably on their desire to make the best use of their time, while, as this occupied a period of 8 weeks, the instruction given was able to be of a more or less thorough character. In animal physiology, which was taken in a somewhat novel and striking fashion, the class were shown various raw products forming food for cattle (hay, grass, meals, carrots, turnips, &c.) in their natural condition, and then their course through the animal body was traced, the various transformations they undergo was shown in as practical a manner as possible, until finally the stage was reached when these raw foods were ultimately converted into milk. The class were really shown by ocular demonstration how this article is formed in the animal body. In chemistry, two afternoons' laboratory work had been arranged, but the class were anxious for more, and they are reported to have acquitted themselves creditably in this subject. Ten classes in elocution were, towards the close of the course, provided by special request of the teachers attending the class, and at their expense.

Training of Elementary School Teachers.—This was undertaken by the College last year for the Berkshire County Council. The classes were conducted at Reading and also at the sub-centres of Didcot and Newbury. The subjects taken were chemistry and botany.

These two subjects are probably those most likely to be of service to rural teachers, in enabling them to develop in the lads coming under

their influence a spirit of observation and inquiry as to what goes on around them, but the teachers themselves require in these subjects a lengthened and systematic training, consisting largely of practical laboratory work, and possibly by next year extended courses will be organised by the College on this basis.

Field Demonstrations.—These were planned last year and are being now carried out at some 9 centres in Berkshire, Hampshire, and Oxfordshire on pastures and roots. The chief experiment on pastures which has been instituted at several different stations is intended to be continued for a period of 5 years.

Scholarships are now offered by the Berkshire County Council tenable at this College, and it is anticipated that neighbouring counties will shortly follow this example.

The cost incurred in respect of the scheme as commenced during the latter part of last financial year amounted to 740*l*. This has been met by grants from the Berkshire County Council of 200*l*. to the scheme itself, and 400*l*. for the training of teachers, and by the preliminary grant of 150*l*. made by the Board. It is understood that the Oxfordshire County Council has now voted the sum of 75*l*. for the current year towards the scheme, and having thus become a contributing body to it, is entitled to a reduction in the fees of scholars sent to Reading.

COURSE FOR DAIRY TEACHERS AT READING.

January 22nd to March 17th, 1894.

(Specially designed for those who attended the short course at Bangor in February 1893.)

SYLLABUS OF LECTURES.

I.—AGRICULTURE and DAIRYING.

By Mr. D. A. GILCHRIST, B.Sc., Edin., and Mr. P. H. FOULKES, B.Sc., Edin.

Lecture.

1. The soiling system of dairying.
2. Soils and their formation.
3. Drainage and cultivation.
4. Why manuring is required.
5. Farmyard manure and its treatment.
6. Artificial manures.
7. Systems of cropping.
8. Cereal crops.
9. Leguminous crops.
10. Green, root, and fodder crops.
11. Grasses and clovers.
12. Haymaking and ensilage.

Lecture.

13. Management of pastures.
14. Live stock—General management.
15. " " Cattle.
16. " " Other than cattle.
17. Foods and feeding stuffs.
18. Food rations and nutritive ratio.
19. Feeding of dairy stock.
20. Feeding of other live stock.
21. The dairy and its equipment.
22. Milk.
23. Butter-making.
24. Cheese-making.

II.—GENERAL CHEMISTRY.

By Mr. G. J. BURCH, M.A., Oxon.

Lecture.

1. Matter and force.
2. Oxygen.
3. Hydrogen.
4. Carbon.
5. The atmosphere.
6. Nitrogen.
7. Ammonia.
8. Acids and bases.

Lecture.

9. Sulphur.
10. Phosphorus.
11. Lime.
12. Magnesia.
13. Soda and potash.
14. Salt.
15. Drinking water.
16. Bones.

III.—CHEMISTRY and BACTERIOLOGY as applied to DAIRY WORK.

By Mr. F. J. LLOYD, F.C.S., F.I.C.

Lecture.

1. Carbon compounds.
2. Carbon compounds.
3. Complex carbon compounds.
4. Fermentation.
5. Physical properties of milk.
6. Chemical constituents of milk.
7. Composition of milk.
8. Analysis of milk.

Lecture.

9. Microscopical examination of milk.
10. Bacteria. Their form and structure.
11. Bacteria. Method of study.
12. Bacteria found in milk.
13. Chemistry of cream.
14. Chemistry of butter.
15. Chemistry of cheese.
16. Retrospective.

IV.—ANATOMY and PHYSIOLOGY as applied to DAIRY WORK.

By Mr. B. J. AUSTIN, F.L.S., and Miss E. C. POLLARD, B.Sc., Lond.

1. Range of inquiry, food to milk. Cow's food a compound. Primary compounds. Secondary compounds. Cow's structural adaptations, body—limbs—mouth.
2. Protoplasm, material, living. Amoeba and its life action.
3. Blood. Nature, properties, &c.
4. Circulatory system - Apparatus, arrangement, structure.
5. " " - Action, nerve stimulus, physical causes.
6. " " - Results, vital phenomena.
7. Respiratory system - Organs, structure, effects of action.
8. Excretory system - Organs, action and results.
9. Glands - General structure, varieties, functions.
10. Digestive system - Apparatus and adaptation, teeth, tongue, salivary glands, saliva.
11. " " - Alimentary canal, structure, secretions.
12. " " - Liver, structure, work.
13. " " - Products, chyme, chyle, &c.
14. Absorbent system - Nature, distribution, action, and effects.
15. Mammary glands - Structure, blood supply, secretion, conditions affecting it.
16. Milk - - - - - Physiological value and importance.

(8.) THE BATH AND WEST OF ENGLAND SOCIETY.

Dairying.—Instruction in this subject has been promoted by this society by means of travelling butter schools in four counties and by the fixed cheese school in Somerset.

Somerset.—During the past year 13 centres were visited by the butter school and courses (which with this society are always of 10 days duration) held, while at 4 centres there was a second course. The pupils who took the full course amounted to 140, while 13 remained for lesser periods.

The cheese school was situate last year at Butleigh, near Glastonbury, and was open from 1st April to 31st October. About 30 cows were kept, while milk was purchased from other farms in the neighbourhood, some 120 gallons being on the average daily made into cheese. The farm was selected as being one on which it was considered impossible to make good cheese, and the skill of the teacher was fully called out in order to cope with the difficulties which were constantly occurring. These, however, were successfully overcome by her, and the season's make of cheese realised on the average the price of 66s. per cwt. The total number of students who came to the school was 44. Of these, 24 stayed for a month, 3 for a fortnight, 15 for a week, and 2 for a lesser period. A useful note book is provided for each of the pupils at the school with a view of enabling them to conduct their observations of the work in such a systematic manner as would be of advantage to them in future years. At the end of the note book is given an account (a reprint of that published by the society in 1892) of the process of manufacture pursued at the school, and as it is of some general interest it is reproduced below.

Devon.—A travelling butter school visited 12 centres in this county, at 4 of which a second course was held. The number of pupils taking the full course amounted to 143, while 30 took shorter courses.

Dorset.—In this county 11 centres were visited during the year, a second course being held at 3 of them; 136 pupils took the full course and 48 took lesser periods.

Kent.—At only two centres, in addition to those mentioned in the previous Report, were schools opened, as the work early last year was entirely taken over by the county council. At the above-mentioned centres three courses were held; 32 pupils came under instruction, of whom 25 took the full course.

A summary of these results shows that during the financial year butter schools were opened by the society at 38 centres, the total number of courses held at these being 50. The pupils coming under instruction numbered 542, of whom 444 took the full 10 days' course.

Research in respect of Cheddar Cheese-making.—This research, as in the previous year, was conducted during the whole of the time that the school was open, and, after the school was closed, the bacteriological portion of the work was carried on in the laboratory of the chemist employed by the Society.

A general account of the work, prepared by this gentleman, is appended on page 113, but it may be mentioned that this year attention was paid to other processes of Cheddar cheese-making (besides that practised at the school), with a view of discovering what fundamental differences, if any, existed between them. An attempt was also made to throw some light on the popular idea that on certain land it is an impossibility to make good cheese.

In addition to cheese-making, research was commenced into matters connected with cider-making; and it is possible that this, in course of time, may lead to important results.

Field Experiments.—These had reference to pasture land, but the season militated very severely against them. They were conducted as regards one set at 11 different stations, situated in 3 counties, and as regards another at 10 stations in 6 counties. Details will be found on page 65.

The cost during the year of all the work undertaken by the Society was as follows:—viz., butter and cheese schools, 135*l.*; cheese research, 380*l.*; cider research, 42*l.*; crop experiments, 160*l.*; or a total of 3,717*l.* This was met by county council grants, 1,894*l.*; fees and admissions, 360*l.*; sales of produce, 760*l.*; the Board's grant of 400*l.*, and a grant from the society of 350*l.*

SPECIMEN NOTE BOOK.

To be kept by Pupils during Attendance at the CHEESE SCHOOL conducted by the BATH AND WEST AND SOUTHERN COUNTIES SOCIETY for the SOMERSET COUNTY COUNCIL.

CONTENTS.

Salt Table.

The salt should be quite dry and fine, as, if it were at all sodden, the weight would be incorrect.

To	7 lb. of curd	2½ oz. salt.	To	84 lb. of curd	1 lb. 14 oz. salt.
14	" "	5 " "	91	" "	2 " 0½ " "
21	" "	7½ " "	98	" "	2 " 3 " "
28	" "	10 " "	105	" "	2 " 5½ " "
35	" "	12½ " "	112	" "	2 " 8 " "
42	" "	15 " "	119	" "	2 " 10½ " "
49	" "	1 lb. 1½ " "	126	" "	2 " 13 " "
56	" "	1 " 4 " "	133	" "	2 " 15½ " "
63	" "	1 " 6½ " "	140	" "	3 " 2 " "
70	" "	1 " 9 " "	147	" "	3 " 4½ " "
77	" "	1 " 11½ " "	154	" "	3 " 7 " "

DAILY RECORD of OBSERVATIONS made at the
189 , by of

CHEESE SCHOOL

1. No. of cows from which the milk was produced.
2. Temp. of evening's milk, taken at 7 p.m.
3. Temp. of dairy taken at 7 p.m.
4. Temp. of dairy taken at 6.30 a.m.
5. Temp. of milk (evenings), taken at 6.30 a.m.
6. Quantity of evening's and morning's milk, when mixed.
7. Quantity of sour whey used.
8. Quantity of rennet used.
9. Time when renneted.
10. Time when breaking of the curd was commenced.
11. Time occupied in breaking.
12. Quantity of whey used to produce 1st scald.
13. Extreme temp. of this whey in heater.
14. Temp. of the 1st scald.
15. Quantity of whey used to produce 2nd scald.
16. Extreme temp. of this whey in heater.
17. Temp. of the 2nd scald.
18. Time occupied in stirring after 2nd scald.
19. Temp. of curd when vatted.
20. Time when vatted.
21. Quantity of salt used.
22. Weight of curd before vatting it.
23. Weight of cheese when taken to cheese room.
24. Temp. of cheese room, taken at 9 a.m.

The space below is intended for remarks as to—

The weather;
Taints in the milk or curd;
Acidity and ripening process;
Or any other matters that a careful student may consider worthy of being recorded.

For the USE and GUIDANCE of their PUPILS, an ACCOUNT is here given of the SYSTEM of MANUFACTURE of CHEDDAR CHEESE as carried on at the BATH AND WEST CHEESE SCHOOL.

The Evening's Milk.—This is brought into the dairy and strained through fine muslin into the cheese-tub. The temperature of the milk when brought in varies from 91° to 87° F., and to prevent the cream rising it is necessary to gently stir the milk at intervals of 15 minutes during the first hour if the temperature of the milk is high, 90° F., or the dairy is about 70° F., and at longer intervals as the milk cools. When the weather is warm, or on a close night, more frequent stirring is needed than when the weather is cool.

In the morning the evening's milk is skimmed, and the cream placed in the warmer with a portion of the evening's milk. This portion will vary with the time of year and the temperature of the evening's milk in the morning. In June, July, and August, about one-half will be necessary; in the spring and autumn more than half may be necessary. Then the morning's milk is strained into the tub containing the remainder of the evening's milk.

The quantity of milk in the tub and in the warmer should now be noted, and also the temperature of each.

It is essential in cheese-making to know the quantity of milk that is being dealt with.

Without possessing this knowledge it is impossible to ascertain whether the cows are maintaining their yield, and paying for their keep; to judge whether the amount of cheese made is what it ought to be; to accurately estimate the quantity of rennet which should be used; and, generally, to conduct the many operations of cheese-making by a sure and not haphazard method. Therefore the necessity of having both the cheese-tub and warmer accurately gauged cannot be too strongly urged upon all cheese-makers.

While it is customary to find cheese-tubs with a gauge, it is seldom that the warmer has one. Yet to facilitate and to ensure accuracy in cheese-making, it is advisable to have accurate gauges for both cheese-tub and warmer. The gauges should not be fixed to the tub, but made to suspend from the rim thereof, so that they can be easily removed and cleaned—or, better still, so graduated that they may be used in the centre of the tub. Those at present supplied with cheese-tubs are not graduated finely enough. They are only marked to show 5-gallon differences, whereas it would be easy to subdivide each of these divisions into five, so as to gauge the exact number of gallons present. These marks might reach only half-way across the gauge. Greater care should also be taken to place the cheese-tub exactly horizontal; frequently there is a difference of two or more gallons in the reading of the gauge, according to its position on the tub.

Heating Evening's Milk.—The first operation is to bring the whole of the milk, both morning's and evening's, to the correct temperature for reaneting. This temperature is 84° F.

In order to estimate the temperature to which the portion of evening's milk in the warmer should be heated, it is necessary to first note the quantity of milk in the tub and its temperature. If the milk in the tub be exactly 84° F., then evidently it is only necessary to heat the portion of evening's milk in the warmer to 84° also. But if the milk be above 84° , then, in order to cool it down, the milk in the warmer must not be heated to 84° , and on the other hand it must be heated above 84° when the milk in the tub is below this temperature. The milk, however, must not be heated above 90° F., and hence it is that the quantity of evening's milk heated must depend upon the time of year, as this affects both the quantity and temperature of the milk in the tub. It is always advisable to have plenty of evening's milk in the warmer.

In order to show how to calculate the temperature to which the milk in the warmer should be raised, let us assume there are 60 gallons of milk in the tub at 83° , and 20 gallons in the warmer. Each gallon in the tub has to be raised one degree, which represents 60 degrees of heat, therefore the 20 gallons must be raised 3° above the temperature required so as to give these 60 degrees of heat up to the milk in the tub. The temperature required is 84° , to which add the 3° required, and we obtain 87° as the temperature to which the evening's milk must be heated.

On the other hand, if the 60 gallons were at 86° F., they would have to be lowered 2° each, or 120 degrees of heat, which is the same as lowering 20 gallons 6 degrees each. Hence the 20 gallons would be required at a temperature 6° below 84° , or at 78° F.

The rule may be stated thus. Multiply the number of gallons of milk in the tub by the number of degrees which they have to be raised or lowered, and divide the number so obtained by the gallons of milk in the warmer. The result shows the number of degrees above or below 84° , to which the milk in the warmer must be brought.

Example.—There are 17 gallons of milk in warmer and 51 in tub at 82° F. The milk in the tub has therefore to be raised 2° F.

$$\begin{array}{r} \text{Multiply } 51 \times 2 = 102 \\ \text{Divide by } 17 \quad 102 \quad (6 \\ \hline 102 \end{array}$$

Add 6 to 84, and we obtain 90° as the temperature to which the 17 gallons have to be raised.

Whey added.—A certain quantity of whey, which has been reserved from the previous day's make, is now heated in the warmer to 84° , and cautiously added to the milk, which must be well stirred meanwhile. This is to ensure sufficient acidity. The quantity depends mainly upon the temperature to which the evening's milk has fallen during the night. If it remains above 70° F. in the morning, about one gallon of sour whey should be used to every 100 gallons of milk; if under 70° but above 65° , from two to three gallons would be desirable. The quantity must, however, depend upon the judgment of the maker. In some instances, where the dairy is small and the milk remains at a high temperature all night, it is not necessary to add any whey. Should there have been any taint in the previous day's milk it would be unwise to add any whey from that day's make. It will then be necessary to keep the heat in the evening's milk during the night, by covering the tub over with a cloth, not forgetting to stir so as to prevent the cream rising.

Renetting.—The next operation is to add the necessary quantity of rennet. After adding the rennet the milk is thoroughly well stirred for ten minutes. When the

milk is very ripe—which will have been noticed if the cream tasted a little sour before being put into the warmer—a shorter period will be sufficient. The tub is then covered over, three laths being first laid across the top of it, and upon them a “wrapper” of sackcloth. This will maintain the heat in the milk and keep out dust.

Measuring Rennet.—To use the proper quantity of rennet is one of the most important points in cheese-making. The quantity will depend upon the time of year, the composition of the milk, and the strength of the rennet. The first two can only be estimated from experience and by careful observations from day to day. The latter can be easily determined by the aid of a few instruments. It is impossible to lay too much stress upon the importance of using the correct quantity of rennet, and that this shall be pure and clean. If rennet be added in excess, a hard curd will be obtained; and when insufficient is used, a soft curd, causing white whey and a considerable loss of fat, ensues, unless the very greatest care is subsequently exercised.

A good rennet extract will cause 9,000 times its own volume of milk to set in a firm curd in 45 minutes. Seeing then the remarkable strength of the rennet extract, it is most necessary to have a means of very accurately measuring out the quantity necessary.

Some cheese-makers use merely an old tea-cup, and wonder why they do not get the same results with their cheese day after day. Some use the ordinary medicine glass divided into teaspoons, but this is not nearly accurate enough. Instead should be used a two-ounce graduated glass cylinder-measure, having 200 divisions, each of which represents 100th part of an ounce. With this measure it is easy to accurately measure out the necessary quantity of rennet, while to calculate what this quantity is will be very simple. Multiply the number of gallons of milk by 16, and divide by 9, the result will show the number of divisions of rennet necessary.

For example: 72 gallons of milk are in the tub, multiply this by 16, the result is 1,152, which divided by 9 gives 128; and therefore 128 divisions of rennet will be required, in other words, 1.28 ounces.

This will be correct when the proportion of rennet to milk is 1 to 9,000; if the proportion is to be 1 to 8,900, then divide by 8.8, or if 1 to 9,200, then divide by 9.2.

Testing Rennet.—To test the strength of the rennet, proceed as follows. Take 6 oz. of milk, warm to 84° F., add 10 divisions accurately of rennet; stir well for a second or two, and note carefully how many seconds elapse after adding the rennet before the milk sets firmly; the time will vary according to the strength of the rennet. To facilitate noting the exact time when the milk sets, a little bit of cork may be floated on the 6 oz. of milk; it will suddenly stop moving the instant the milk sets. The number of seconds which it takes to set the milk should be noted on the bottle or in a note book.

In this way it is after a little experience easily possible to tell whether any new rennet bought is adulterated or of the same strength as the old, for if not it will take longer for the 10 divisions of rennet to curdle the 6 oz. of milk.

Cutting the Curd.—The curd is ready to cut when it has attained a certain degree of firmness, which is judged by cheese-makers in various ways, some by pressure with the fingers on the top of the curd, others by the way in which the curd breaks over the finger, or, better still, over a clean glass thermometer. The curd should break with a clean fracture, and not fall away in little pieces on either side. When this consistency is obtained, but on no account before, the curd is “cut” with a breaker, great care being necessary to cut it evenly, thoroughly, and yet gently, so as to prevent any loss of fat. Subsequently the curd is allowed to settle until the whey has risen. The curd should be fit to cut 45 minutes after adding the rennet, but the time which elapses before the whey rises and the curd is fit to break will vary nearly every day, and the whey is allowed to rise more thoroughly in autumn than in summer. When the whey rises quickly—one hour from the time of renneting—it indicates that a quite sufficient quantity of acid was present in the milk; but if the whey rises more rapidly, there was an excess of acidity; while, if it takes longer than one hour from time of renneting, then there was a lack of acidity, and the stirring during scald will have to be continued for a longer period than would otherwise be necessary.

Breaking.—When the whey has properly risen, the “breaking” of the curd commences. The curd must be broken gently but evenly for half an hour, at the end of which time it should be in a uniform state of fine division, and in pieces about the size of peas.

After breaking, the curd is allowed to settle for five minutes. Sufficient whey is then put aside for the morrow's cheese.

First Scald.—A quantity of whey is now placed in the warmer, and heated to such a temperature that when it is again mixed with the portion in the tub the latter is raised to a temperature of 88° F. This is called the first scald. The quantity of whey heated varies from about 20 to 15 gallons.

The temperature to which it should be raised may be estimated by means of a similar calculation to that adopted with the evening's milk. Thus, if there are 60 gallons in tub and 15 in warmer, the temperature in tub is, say 83°, hence 60 gallons have to be raised 5 degrees each, or 300 degrees of heat; the 15 gallons in the warmer must therefore be heated 20 degrees above the required 88°, or to 108° F.

While the whey is being warmed the tub is washed round to the bottom with the hand, so as to separate any curd which may cling to the sides. The curd must be kept stirred while the whey is being heated, and especially while the hot whey is being gradually added to it. The hot whey having been added, the curd is well stirred for 15 minutes in it, and then allowed to pitch or settle for five minutes.

Second Scald.—A fresh portion of whey is placed in the warmer, sufficiently heated and gradually added to the tub to raise the contents to a temperature of 92° F. Later in the year the temperature of the second scald is raised to 94° F. The whey for the second scald must not be heated above 130° F.

The curd is kept continually stirred in this scald until it has acquired a certain degree of firmness. This firmness is estimated by the sense of touch of the maker, some of the curd being pressed in the hand. Others use the hot-iron test. The curd when sufficiently firm will have attained a condition which is technically termed "shotty." Ordinarily this condition is obtained after about 30 minutes' stirring, though sometimes it may take much longer. In fact, it cannot always be obtained, and the curd is then known as "sweet." When the curd is sufficiently hard, the contents of the tub are very rapidly stirred round into the condition of a whirlpool, so as to gather the curd into the centre. The curd is then allowed to settle for 15 minutes, but if "sweet," and not firm, it must remain for a longer period. Subsequently the whey is drawn off through a strainer into the whey leads. The curd is then "piled."

Piling Curd.—This operation consists in turning up the outer rim of curd, which lies on the bottom, and immediately around the side of the tub, and throwing it back on to the centre pile of curd, more especially around the edge, so as to build up a solid circular block of curd in the middle of the tub, the edge of which is about 6 inches from the side of the tub. The crumbs of curd in the strainer are placed on the top of the pile, and well pressed in with the hands. The curd is next cut with a knife into blocks about 6 to 8 inches square, this being about the height of the piled curd. The centre blocks having been turned over, the outer ones are placed upon them, the heap cut round with a knife, so as to remove all projecting edges, and the portions cut off placed on the top. All the crumbs are next carefully swilled down with whey from the sides of the tub and from around the pile, collected in the strainer, and then placed on the top of the pile. The piled curd is covered with thin cheese-cloths and wrappers, and the curd is allowed to drain, as a rule, until the whey drops from the tub. This will generally take from 20 to 30 minutes, or longer if the curd is "sweet." When the curd is too firm from an excess of acidity, it is sufficient to cover it when draining with thin cloths only.

Ripening of Curd.—The curd is next cut into six or eight blocks, one-half taken to the "rack" in the "cooler," broken with the hands into small pieces, and tied up tightly in a cloth. The remaining half is treated in a similar manner, and the two bundles are then placed one on top of the other, and subjected to pressure by being covered with a tin pan reversed, on which are placed a cloth, a thick board, and a heavy weight. The weight varies from 56 lbs. to 84 lbs., according to the quantity of curd. The whole is wrapped round with cloths to keep the heat in the curd, and so promote its ripening. Should, however, the curd be "soft" from excess of acid, it is not advisable to wrap it up.

The curd is left thus for half an hour, during which time a certain amount of liquid drains away from it. When the curd is soft from excess of acid, from 10 to 15 minutes is sufficient.

First Cutting.—The curd is taken out of the cloth and cut with a knife vertically, say from N. to S. and E. to W. at distances of 1 inch, so as to produce oblong pieces of curd 1 inch square and about 4 inches in length. These are well mixed together, again tied up in the cloths, the bundles being reversed so that the upper one is placed underneath. The bundles having been treated as above described, are

subjected to the same pressure for a further period of half an hour. Again some liquid drains away.

Second Cutting.—The curd is taken out of the cloth, cut as before, then pressed down so as to lie at an angle of 45° with the cooler, and again cut across, so that each oblong piece becomes divided into three or more cubes of about 1 inch each in size. When the curd is very sweet it is cut into larger, about 2-inch cubes. The cubes are packed up as before and subjected to pressure for half an hour.

Turning the Curd.—The curd is then opened up, broken into lumps by being pressed against the rack, again tied up and subjected to the same pressure as before for half an hour.

This operation is repeated sometimes twice or thrice, at regular intervals of half an hour, except when the curd is slow to ripen, as frequently happens in the autumn. It may then be necessary to leave one hour between each turning.

The turning of the curd proceeds until it has attained the requisite degree of ripeness. The curd should then be dry and solid when cut, leathery, and flakey when torn asunder, of good taste and smell, and sufficiently acid.

No part of the manufacture of Cheddar cheese requires more judgment, experience, and natural aptitude than to determine when the curd has attained that condition in which it may be considered fit to grind.

Grinding and Salting Curd.—It is then passed through the curd mill, spread on the cooler and salted. The quantity of salt used is $2\frac{1}{2}$ lbs. to 112 lbs. of curd. The salt is thoroughly mixed with the curd, which is then placed in the vat, each portion as it is put in being pressed down carefully so as to pack the vat evenly.

Pressing.—The vat is then put under the first press, pressure being applied very slowly, and increased gradually until full pressure is applied. Here it is left over night.

Next morning the cheese is removed from the first press, and dry cloths having been put on it, it is placed in the second press, under slightly greater pressure.

This operation is repeated for three days in succession, a separate press capable of exerting greater pressure upon the cheese being used each day. At the end of $3\frac{1}{2}$ days the cheese is bound, labelled, and taken to the cheese room.

Where many cheeses are made it is advisable to have two cheese rooms for ripening the cheese. The temperature of the one to which the cheeses are first taken should be maintained as far as possible between 63° and 68° F. The second room may be cooler, with a temperature of 58° to 63° F. For three or four weeks after the cheeses are made they must be turned every day; and subsequently they should be turned every few days until sold.

Such is a description of the method of making Cheddar cheese adopted at the School of the Bath and West and Southern Counties Society. But, in addition to a close attention to the details herein mentioned, it is essential to the production of a good cheese that the following conditions be observed.

Cleanliness.—First and foremost, it is necessary that the greatest care be taken in milking to prevent any contamination getting into the milk. And should the milk in the evening be brought into the dairy before the day's cheese has been vatted, the cheese-maker must wash her hands before touching any of the apparatus used for the evening's milk.

The apparatus and all utensils employed must be kept scrupulously clean by thorough washing and scalding, not the least trace of curd being left anywhere. Here we may mention that badly made, as also worn-out, utensils, cannot possibly be thoroughly cleansed, and must be rejected. The dairy itself must be kept clean and well ventilated, and nothing should be kept in it except what is absolutely required for the cheese-making. The floor must be well laid, and all cracks, open joints, &c. filled in with cement, and the drain should be an open one. Should any milk or whey be spilt on the floor it must immediately be wiped up with a clean flannel or mop.

In addition to the minute attention to details which has been insisted on, it is essential that an ever-watchful intelligence should be possessed, and constant observation exercised, by every cheese-maker who aims at the rare result of producing, throughout a whole season, cheese of the best quality, at once rich, mild, and uniform in character.

Nothing short of the most exact attention to every detail herein set forth will ever secure the manufacture of cheese of this high quality.

Above all it is necessary to obtain in the curd before it is vatted a sufficient amount of acidity; without this it is not possible to make either a good cheese or cheese of uniform quality, while by securing it are destroyed many of the taints which are a constant source of trouble to Cheddar cheese makers.

(9.) THE EASTERN COUNTIES DAIRY INSTITUTE.

The Work of this Institute during the past year has been mainly directed to the conduct of local classes in butter-making in the surrounding counties, and consequently, while the number of pupils thus taught has increased, those receiving instruction at the Institute itself have been rather less numerous than was previously the case. Altogether 19 pupils attended at the Institute for butter-making instruction, of whom 6 were sent with scholarships from the Norfolk County Council. The promise of a certain amount of land, within a short distance of Ipswich railway station, has now been made to the directors of the Institute. They are intending to build upon it a fully equipped dairy school, and to remove from their present premises at Akenham as soon as the fresh institute is ready for occupation.

For the third year in succession, instruction has been given in the process of making Cheddar cheese. This year the class was held at a farm house in West Suffolk, the Institute supplying the necessary plant. The class lasted for a fortnight, and was attended by 17 pupils. In East Suffolk demonstrations were given, and cheese made at a local show. The efforts which are thus being made to re-introduce the manufacture of cheese into this county seem to be meeting with some success, as it is understood that several farmers are now taking up the matter.

Classes in Butter making have during the past year been held in the following counties:—

Norfolk.—Courses of 10 days each were held at 20 centres, 136 pupils received instruction for the full period, and 369 for lesser periods. A lecture and demonstration was held at one other centre, and a butter-making competition for pupils from the school was held at Norwich, at which there were 40 competitors.

East Suffolk.—Courses of 10 days each were given at 12 centres, 141 pupils taking the full course, and 49 taking lesser periods. The county council charged the fee of 2s. 6d. for the course, which was remitted if the pupil attended for the full period. The effect of this plan, as shown by the figures given above, was satisfactory. Lectures and demonstrations were given at two other centres (one, as previously stated, having reference to cheese-making), and a county competition held at another centre.

West Suffolk.—Courses of 10 days' duration were held at three centres, in addition to the previously mentioned class in cheese-making, at which, however, butter-making instruction was also conducted. 24 pupils took the full course, and 44 took lesser periods. A lecture with demonstration was given at one other centre.

Huntingdonshire.—The number of centres at which 10 days' classes were held was 5. There were 30 pupils who took the full course, and 40 who remained for a shorter time.

Bedfordshire.—Courses of 10 days were here given at 7 centres, and lectures and demonstrations at 2 more. The pupils taking the full course numbered 56, while 72 received instruction for lesser periods.

Cambridgeshire.—One 10 days' class was held in this county, and lectures and demonstrations, and a county competition, held at another centre. The pupils who took the 10 days' course numbered 10, and those who stopped for a shorter period numbered 15.

Isle of Ely.—As stated in a previous report, the classes here cannot, for local reasons, be held for longer than 5 or 6 days at a time. Classes extending over this period were held at 4 centres. The total pupils were 35, of whom 15 remained for the full period available.

Hertfordshire.—A lecture with demonstration was given at one centre in this county, and a competition organised.

The Cost of the Work incurred during the year has amounted to a little over 2,000*l.* The receipts, in addition to the Board's grant of 350*l.*, have included grants from county councils and other local authorities amounting to 1,737*l.*, from agricultural societies, &c., 84*l.*, while fees placed to the credit of the Institute have realised 15*l.*

(10.) THE BRITISH DAIRY INSTITUTE.

The number of pupils who during the past year have attended this Institute has been in excess of those who attended in the previous year, while the persons applying for admission were treble in number to those who could ultimately be received.

The actual number of pupils amounted to 102, and the attendances of many were for considerable periods. While 38 attended from 1 to 3 weeks, the remainder stayed at the Institute for periods ranging from 4 weeks to over 4 months.

Several of those who came for further instruction were already teachers of butter-making in various parts of Great Britain and Ireland, while on leaving the Institute 13 pupils obtained situations as teachers for the first time, and are at work in different parts of the country.

Other pupils have received situations as dairy maids or have posts in connection with dairy factories, while the great bulk are either assisting their parents at home or managing small dairy businesses in towns for themselves or others.

The number of pupils sent with scholarships from county councils amounted to 38, and came from the following districts, viz.:—Northamptonshire, Lincolnshire, Salop, Bucks, Nottinghamshire, and Monmouthshire.

Examinations were held at the Institute in May, September, and December. Some 50 persons presented themselves, of whom 25 had previously attended as pupils.

The results were as follows:—1 candidate received the diploma; 3 obtained butter and cheese making certificates; and 2 received teachers' certificates to qualify them to give instruction in butter-making, under the Education Department, to children in elementary schools. All the foregoing had received instruction at the Institute. In addition to these, 23 persons received butter-making certificates, of whom 16 had been trained at the Institute.

The only work now undertaken of an external character is for the Bucks County Council, who make a grant of 300*l.* for this purpose, and for the training of such pupils as they may desire to send to the Institute or more prolonged instruction.

During the year, 6 centres in Mid and South Bucks were visited by the travelling schools, at 3 of which a second course was held. The

actual number of courses given was thus 9, of which 4 were 6-day and 5 were 10-day courses.

The number of pupils who attended the 6-day courses was 23, and all of them took the full course; the number attending the 10-day courses was 42, of whom 34 took the full course.

Demonstrations in butter-making were also given at 7 centres in the county.

The cost incurred during the year amounted to nearly 1,800*l*. The receipts included the grant from the Bucks County Council 300*l*., and the fees at the travelling school 80*l*., as well as the Board's grant of 250*l*. and a grant from the British Dairy Farmers' Association 100*l*. The balance was made up by pupils' fees at the Institute for instruction and board, together with sales of produce and miscellaneous receipts.

(11.) THE GLASGOW AND WEST OF SCOTLAND TECHNICAL COLLEGE.

The classes carried on in Glasgow and the extension work conducted in the south-western counties of Scotland by this College during the past year have been of much the same nature as in previous years. The number of students attending the various classes shows no material variation, although a slight increase in the numbers attending the day class in agriculture must be noted. A total of 102 students came under instruction in Glasgow during the session.

The course of instruction in the day class commenced on the 11th October, and comprised 100 lectures delivered in the afternoons 4 days a week, when there were 7 students in attendance.

The junior evening class in agriculture received a course of 30 lectures delivered every Wednesday. It was attended by 46 students, of whom 13 were schoolmasters.

The senior evening class received a course of 100 lectures in agriculture, two being delivered each Tuesday and Thursday during the session. The attendance in this class was 15, of whom 11 were schoolmasters.

In addition to agriculture proper the subjects of inorganic chemistry, agricultural chemistry, with practical laboratory work, agricultural botany, entomology, and forestry were taught, other students besides those in the agricultural classes attending.

A short course in dairying (including practical instruction in butter-making) has been introduced into the curriculum, and was attended by 22 students.

An ordinary certificate in butter-making is granted after the short course at the College extending over at least 10 days, and comprising theoretical as well as practical instruction.

A junior certificate in dairying is granted to students attending the Kilmarnock Dairy School for one month to learn cheese-making as well as taking the College course in butter-making for a fortnight. Further attendance is also required at such lectures in agriculture and dairying as may be given in connection with the courses of practical instruction.

A senior certificate can only be gained after a candidate has undergone instruction (a) for the junior certificate as already detailed, (b) instruction in cream cheese-making, (c) classes at the College in elementary chemistry, physiology, and botany, and also in dairying.

The external work carried on by the Glasgow College has come under the following heads :—

Dairying.—The College supplied for the counties of Kirkcubright and Wigtown instructresses in butter-making, who had been previously trained at one or other of the dairy schools in connection with the University College of North Wales, Bangor. In each county the funds were provided by the county council, and the instruction was carried on during a period of 13 weeks in the one county and of 14 weeks in the other. A short course was also conducted at Doune in Perthshire where 26 pupils attended with successful results.

Field Experiments.—A station has been established at Cleghorn, in Lanarkshire on a field some 20 acres in extent which has been placed at the disposal of the College rent free by Mr. Elliot Lockhart, who also supplies labour, equipment, and local supervision. It has been carefully divided into series of plots of $\frac{1}{12}$ or $\frac{1}{20}$ of an acre, and experiments of an educational character are there conducted on cereals, green crops, hay, and permanent pasture.

Other experimental stations have been established, "demonstration" plots having been arranged on 42 farms in the counties of Perth, Lanark, Renfrew, Stirling, Kirkcubright, Dumfries, Ayr, Dumbarton, Wigtown, and Argyll.

Extension Lectures.—These have been conducted as under :—

Ayrshire.—By arrangement with the county council 30 lectures on agriculture and 30 on chemistry were given at Kilmarnock, and a similar number on each subject delivered at Ayr, while at 6 other centres in the county 2 lectures on agriculture were also given.

Renfrewshire.—Courses of 6 lectures each were given at Paisley and Kilmalcolm.

Kirkcubrightshire.—The whole of one lecturer's time was employed in giving lectures on agricultural botany at various centres throughout the county. The courses of lectures were 10 in number and the centres where they were held were 15.

Buteshire.—Pioneer lectures, 10 in number, on veterinary science were given at 5 centres in this county.

Argyllshire.—Courses of 8 lectures were given at 3 centres in this county.

Lanarkshire.—A course of 30 lectures on agriculture were given at 1 centre, while at 3 other centres courses of 3 lectures were delivered.

The cost of the agricultural work of this College in Glasgow and in the counties in which their extension work was carried on has amounted during the year to nearly 2,000*l.* The contributions from county councils amounted to about 900*l.* and from other local authorities or agricultural societies 115*l.*; science and art grants, fees, and subscriptions for bursaries supplied nearly 180*l.*, the Board's grant was 600*l.*, the balance being defrayed by the ordinary funds of the College.

(12.) UNIVERSITY OF EDINBURGH.

Further progress has been made during the past year, under the advice of the Board, in the direction of consolidating some of the various

teaching agencies in Edinburgh, which have been hitherto separately engaged in giving agricultural instruction. An influential joint administrative board has been established, consisting of representatives of the University Court and of the Highland and Agricultural Society, with power to add to their numbers representatives of county councils or other bodies contributing to the expense of the consolidated scheme. The members of this joint board include the Lord Justice-General, the Principal of the University, the Lord Provost of Edinburgh, Lord Stormonth Darling, Sir William Turner, Sir James Gibson Craig, the Master of Polwarth, Major Wardlaw Ramsay, the Reverend John Gillespie, and the Secretary of the Highland and Agricultural Society.

Pending the provision of a general and systematic course of agricultural instruction, established in connection with the University and with the co-operation of neighbouring local authorities, the grant for the financial year has been allocated as follows:—

- (a.) 150*l.* to the several extra-mural institutions previously aided, providing instruction in agricultural chemistry, botany, zoology, veterinary hygiene, and book-keeping;
- (b.) 300*l.* to the special Schoolmasters' Class, which has been held annually in the University; and
- (c.) 100*l.* to the Lectureship in Forestry.

The Schoolmasters' Class was held in August, and was on this occasion organised by the Professor of Agriculture in the University as an advanced class consisting mainly of schoolmasters who had already undergone a course of instruction either at Edinburgh, South Kensington, or elsewhere, and who were qualified to earn grants under the Science and Art Department. Five schoolmasters who had not this qualification were permitted to join the class at their own expense.

The number of names on the register were 48, and these were drawn from a great variety of counties, 9 coming from Caithness, 6 from Perthshire, 4 from Midlothian, and smaller numbers from 15 other counties.

The subjects taken included agriculture, chemistry, botany, and geology, as bearing upon agriculture, while extensive facilities were given for regular practical work in the chemical and botanical laboratories, and for dairy and geological excursions.

The lectures were all given by University professors of the several subjects named or by their assistants, those on botany being given in the Botanic Garden. The course as a whole is reported to have been well arranged for the special object in view, and to have met the demand for a more advanced grade of instruction than had been previously open to the 284 schoolmasters from 32 different Scottish counties who have participated in the Edinburgh autumn classes of the previous five years.

The Forestry class was held during the winter, a series of 100 lectures being delivered in two sets of 50 each. At the time of inspection in November, 8 students were enrolled. The remuneration of the lecturer appointed by the University is provided in part by the interest of the sums collected by the Highland and Agricultural Society and the Royal Scottish Arboricultural Society toward the permanent endowment of a Chair of Forestry, and in part by the fees paid by the students, and by the Board's grant.

(13.) THE UNIVERSITY OF ABERDEEN.

The prospective arrangements mentioned last year as to the Fordyce Trust have now been completed, and under an ordinance of the Scottish Universities Commissioners that trust has been merged amongst the other trusts of the University, and the income of the endowment is to be applied by the University Court towards the payment of a lecturer on agriculture and rural economy.

With a view of making provision in the University for a longer and more complete course of agricultural instruction than has hitherto been provided in this city, a permanent committee of the University Court has been appointed to deal with the question of agricultural education.

The intention of the University is ultimately to establish a fully equipped centre for agricultural education at Aberdeen for the benefit of the north-eastern counties of Scotland, and a scheme projected by the Committee has been submitted to the Board. In view of the exceptional features of the proposals made, and of the part that must necessarily be taken by the neighbouring counties, it has been remitted to the detailed consideration of the local authorities concerned.

A **Schoolmasters' Class** was in the meantime, and pending the steps necessary to the equipment of an educational centre, held during the autumn for a selected number of schoolmasters at the University by arrangement with the county council of Aberdeenshire.

It is understood that applications for permission to attend this class were received from 187 schoolmasters, including 67 from Aberdeenshire, 31 from Inverness-shire, 19 from Orkney and Shetland, 17 from Ross and Cromarty, 12 from Banff, 12 from Caithness, 10 from Forfar, and smaller numbers from Kincardine, Sutherland, Moray, and Perth. The majority of the county councils concerned did not see their way to make a grant in aid of the class and the attendance was thus reduced to a total of 34 schoolmasters, of whom 31 attended from the county of Aberdeen, and 2 from the county of Forfar, the local authorities of these counties contributing at the rate of 6*l.* per head.

The course of instruction consisted of lectures every morning on agricultural chemistry, botany, and physics, given by the Fordyce lecturer on agriculture, and by the University professors of botany and natural philosophy, the afternoons being devoted to laboratory work. An examination was held at the close of the course conducted by Professor Trail and Mr. Jamieson, and the work of the class was reported to be good.

A **winter class** for the instruction of University students and schoolmasters, in continuation of those conducted in previous years, was also again held between the 20th November and 25th December.

The numbers on the register of this class were 23, of whom 12 were University students training for the teaching profession, and 6 were agricultural students. Four schoolmasters and one Normal College student also attended.

The instruction consisted of 25 to 30 lectures given every evening by the lecturer on agriculture, and by a lecturer in physics recently appointed, arrangements being also made for laboratory practice for a further hour after the evening lectures, and in the case of students from the country at any time between 9 a.m. and 3 p.m. on Saturday.

The cost of the two classes was about 500*l.* The income of the Fordyce Trust, together with a small amount of fees, was available for the winter class. The county councils of Aberdeen and Forfar contributed in respect of their teachers to the autumn class. The Board's grant in aid of the two classes was 200*l.*

(14.) THE SCOTTISH DAIRY INSTITUTE, KILMARNOCK.

The work carried on by this Institute comprises instruction in cheese and butter making. The school was open from the beginning of April to the end of September.

The pupils still continue to be entirely of the farming class, and last year numbered 433, an amount exceeding the attendances of any previous year. A small proportion of these remained at the school for periods varying from 10 days to 2 months, but the bulk of the pupils attended for 1 day or for periods ranging from 2 to 6 days. Most of the pupils attending are cheese-makers already who desire information upon a few specific points as regards difficulties arising in their regular practice.

The pupils who attended came from the following districts:—

Ayrshire	-	-	-	-	299
Dumfriesshire	-	-	-	-	22
Wigtownshire	-	-	-	-	10
Kirkcudbrightshire	-	-	-	-	4
Lanarkshire	-	-	-	-	12
Argyllshire	-	-	-	-	69
Buteshire	-	-	-	-	2
Other parts of the country	-	-	-	-	15

The amount of cheese made during the year amounted to 10 tons, and the butter to 1,463 lbs.

In the previous year the instructress in butter-making had conducted local classes in different parts of the county, but this year it was found that students preferred to come direct to the school, so no travelling work was done.

The cost of the School during the past year has amounted to 1,640*l.* This was met by the Board's grant of 250*l.*, by county council grants of 230*l.*, by subscriptions from individuals and societies amounting to 346*l.*, and by fees from pupils amounting to 110*l.* The sales of produce (cheese and butter) realised 725*l.*

The School has lately taken a forward movement as regards instruction in the higher branches of dairying and the sciences cognate thereto. The scheme is worked in conjunction with the Glasgow and West of Scotland Technical College, and certificates of three grades are awarded in connection with it. As both the syllabus of instruction and the regulations affecting the granting of certificates are of more than local interest and importance, they are reproduced below:—

REGULATIONS FOR CERTIFICATES.

A certificate in butter-making, and junior and senior certificates in dairying, will be awarded conjointly by the Glasgow and West of Scotland Technical College, and

the Kilmarnock Dairy School, in accordance with the regulations herein-after mentioned. Candidates are required to attend regularly the courses of instruction prescribed, and to pass examinations therein to the satisfaction of the examiners.

CERTIFICATE IN BUTTER-MAKING.

COURSE OF INSTRUCTION.

Two distinct and complete courses of instruction, qualifying for the above certificate, will be provided in the Kilmarnock Dairy School, during part of the months of April and May, the first beginning on the 16th April and the second on 30th April. Each course will consist of classes for practical and theoretical instruction in butter-making, meeting daily, except Saturdays, for a fortnight.

I. *Practical*.—Each candidate is required to work at butter-making daily for 10 days under the instruction of Miss Shirley, either forenoon or afternoon, as may be arranged.

II. *Theoretical*.—Candidates are also required to attend 6 lectures by Mr. Campbell on the following subjects:—Breeds, feeding, and management of dairy cattle. Plan and management of a dairy. Nature and properties of milk. Variations of milk. Simple methods of milk-testing. Methods of separating cream. Ripening and churning of cream or whole milk. Churns and churning. Manufacture and treatment of butter.

EXAMINATIONS.

At the close of the course a practical examination will be held in butter-making, and also a written and oral examination on the subjects of the lectures.

JUNIOR CERTIFICATE IN DAIRYING.

COURSE OF INSTRUCTION.

The course will extend over four weeks, beginning 16th April.

I. *Practical*.—Candidates are required to attend the dairy school as follows:—

- (a.) For Cheddar cheese-making, under the instruction of Mr. Drummond, daily, except Saturdays, during the four weeks of the course;
- (b.) For butter-making, under the instruction of Miss Shirley, daily, except Saturdays, during two weeks of the course; and
- (c.) For instruction in the hand-milking of cows to such an extent as may be required.

II. *Theoretical*.—Candidates are also required to attend the course of lectures by Mr. Campbell on the following subjects:—Breeds and characteristics of dairy cows; rearing, feeding, and management. The dairy farm—management and cropping; construction of byres and dairies; sanitary arrangements. Milk—its composition and properties. Dairy utensils. Methods of testing the quality of milk. Methods of separating cream. Butter-making—ripening of milk or cream; churns and churning; butter working; packing and keeping. Cheese-making—preparation of the milk; acidity; rennet and its action; soft and hard cheeses; methods of manufacture; after treatment and ripening. Utilisation of dairy products.

EXAMINATIONS.

At the close of the course a practical examination will be held in Cheddar cheese-making, butter-making, and milking; also a written and oral examination on the subjects of the lectures.

SENIOR CERTIFICATE IN DAIRYING.

COURSE OF INSTRUCTION.

This course will extend over three weeks, beginning 3rd September, and is intended chiefly for those who have gained either the certificate in butter-making or the junior certificate in dairying.

Candidates are required to attend regularly the following courses of lectures and demonstrations, to be delivered in the dairy school during the above period:—

1. Demonstrations in butter-making, Cheddar cheese-making, and the manufacture of cream cheese.
2. Chemistry of dairying - - 15 lectures and demonstrations
3. Animal physiology - - - 5 lectures
4. Agricultural botany - - - 10 lectures and demonstrations
5. Bacteriology - - - 5 lectures and demonstrations
6. Dairying - - - - 15 lectures

EXAMINATIONS.

At the close of the course practical examinations will be held in milking, butter-making, Cheddar cheese-making, and cream cheese-making; also a written examination on the subjects of the above lectures, and an oral examination in dairying.

Note.—Candidates who hold either the certificate in butter-making, or the junior certificate in dairying, will be exempted from the practical examinations in the subjects covered by such certificate.

SYLLABUS OF LECTURES FOR SENIOR CERTIFICATE COURSE, BEGINNING 3RD SEPTEMBER.

ELEMENTS OF CHEMISTRY AND CHEMISTRY OF DAIRYING, WITH DEMONSTRATIONS.

By JAMES HENDRICK, B.Sc. (Lond.), F.C.S., Lecturer in the Glasgow and West of Scotland Technical College.

Matter.—Its physical and chemical properties and constitution.

The Atmosphere.—Its composition and properties, gases, oxygen, nitrogen, hydrogen, ammonia, carbon dioxide.

Water.—Its properties, composition, and impurities.

Solid Substances.—Sulphur. Phosphorus. Mineral matters. Carbon and carbon compounds. Carbohydrates. Fats. Albuminoids.

Milk.—Its chemical and physical properties. Its constitution and analysis.

Butter.—Its properties and composition.

Cheese.—Its composition.

DEMONSTRATIONS.

Weights and measures. Specific gravity. Forms and properties of matter. Indestructibility of matter. Solution, evaporation, crystallisation, and filtration. Oxygen. Hydrogen. Nitrogen. Carbon dioxide. Water. Acids. Bases and salts. Analysis by weight and by volume. Fats and their estimation.

ANIMAL PHYSIOLOGY.

By Professor WM. LIMONT, M.A., M.B., and Professor JAS. M'I. M'CALL, M.B., C.M., M.R.C.V.S., of the Glasgow Veterinary College.

1. *Blood.*—Its nature, properties, &c.
2. The circulatory and respiratory systems.
3. Digestion and absorption of food stuffs.
4. Anatomy and histology of the mammary gland of the cow.
5. *Mammary Secretion.*—Secreting and non-secreting conditions of mammary gland.

AGRICULTURAL BOTANY.

By A. N. M'ALPINE, B.Sc. (Lond.), A.R.C.S., Lecturer in the Glasgow and West of Scotland Technical College.

1. *Green Plants in General*.—Drinking. Feeding. Breathing. Excreting. Seeding.
2. *Turnips and Swedes*.—Life history. Feeding. Growth and Duration. Reproduction. Nutritive value. Liability to disease.
3. *Leguminous Plants*.—Symbiosis. Feeding. Seeding. Nutritive value.
4. *The Clovers*.—Identification by leaf, flower, and seed. Mode of growth and duration. Root depth. Liability to disease.
5. *Grasses in General*.—Tillering. Duration. Top and bottom. Construction of ear and seed.
6. *The Best Top Grasses*.—Mode of growth. Duration. Agricultural and nutritive value. Identification by leaf, by ear, and by seed.
7. *The Best Bottom Grasses*.
8. *Grass and Clover Mixtures*.—Mixtures of short duration. Permanent mixtures—clovers, top grass, bottom grass.
9. *Hay*.—Botanical composition and nutritive value. Time of flowering and cutting. Judging value of hay.
10. *Pasture*.—Clover. Top grass. Bottom grass. Weeds or fog. Improvement and deterioration. Judging value of pasture.

FUNGUSOLOGY AND BACTERIOLOGY.

By A. N. M'ALPINE, B.Sc. (Lond.), A.R.C.S.

1. *Fungi and Bacteria as Plants*.—Drinking. Feeding. Breathing. Multiplying.
2. *Life History of Fungi and Bacteria*.—Growth. Propagation. Resting forms. Distribution.
3. *Cultivation of Bacteria*.—Pure culture. Hardihood. Influences of environment on activity. Manuring.
4. *Specific Bacteria in Milk and its Products*.—Sour Milk. Fungi in cheese.
5. *Fermentation, Putrefaction, and Infectious Disease*.—Disease germs in milk. Diseases spread by milk.

DAIRYING.

By JOHN CAMPBELL, B.Sc., F.H.A.S., M.R.A.S.E., Lecturer in the Glasgow and West of Scotland Technical College.

THE DAIRY FARM.

- Characteristics*.—Situation. Soil. Shelter. Water supply. Buildings, &c.
- Management*.—Crops. Pasture. Gain and loss to land.
- Applied Botany*.—Feeding properties of various crop and pasture plants. Effects on quality and flavour of milk.

THE DAIRY COW.

- Characteristics*.—Comparison of dairy breeds. Breeds suitable for various purposes and districts.
- Management*.—Rearing. Selecting. Drafting. Feeding—purchased food, food produced on farm, summer and winter feeding, balancing constituents, mixing, cooking, condiments, water, &c. Milking, by hand and by machine. Common diseases.

MILK.

Applied Chemistry.—General properties. Properties of each constituent. Causes of variation.

Applied Physiology.—Physical structure. Causes of variation.

Applied Bacteriology.—Effects of bacteria, useful and injurious. Control of bacterial composition.

Management.—Cooling. Preserving. Cream separation. Principles underlying management.

Testing.—Babcock tester. Lactocrit. Creamometer. Lactometer. Other tests.

Utilisation.—Milk-selling. Cheese-making. Butter-making.

CHEESE.

Applied Chemistry.—General properties. Causes of variation.

Applied Bacteriology.—Physical structure. Biology of cheese-making. Influence of fungi and bacteria on character of product. Control of bacterial composition.

Cheese-making.—Equipment and utensils. Preparation of the milk. Acidity—its production and estimation. Rennet. Colouring. Cheddar cheese. Coagulation and manipulation. Skim milk and filled cheeses. Cream cheeses. Other cheeses. Principles underlying the various operations.

BUTTER.

Applied Chemistry.—General properties. Properties of constituents. Peculiarities of flavour and colour. Causes of variation.

Applied Bacteriology.—Ripening of cream. Control of the process.

Butter-making.—Utensils. Methods of extracting cream from milk. Their influence on products. Effects of ripening. Churns and churning. Manipulation and treatment.

Utilisation of bye-products.

II.

Record of certain Field Experiments
conducted by Institutions aided by
the Board of Agriculture.

II.—RECORD OF FIELD EXPERIMENTS CONDUCTED BY INSTITUTIONS AIDED BY THE BOARD OF AGRICULTURE.

(FROM THE REPORTS OF DIFFERENT EXPERIMENTERS.)

(1.) UNIVERSITY COLLEGE OF NORTH WALES, BANGOR.

(MR. THOS. WINTER.)

EXPERIMENTS ON PASTURE AT HENBLAS, AMLWCH.

The object of the experiments, which were designed to extend over a series of years, was to test the relative value of various phosphatic manures both alone and together with nitrate of soda.

The following table shows the manures applied and results obtained, the grass having been almost dry when weighed.

Plot.	Manures per Acre.	Cost per Acre.	Weight of Grass per Acre.
		£ s. d.	T. c. lb.
I.	{ 4 cwt. superphosphate - - - }	1 3 7	2 5 16
	{ 1 cwt. nitrate of soda - - - }		
II.	{ 6 cwt. basic slag - - - }	1 3 9	2 10 0
	{ 1 cwt. nitrate of soda - - - }		
III.	{ 4 cwt. dissolved bones - - - }	1 15 0	2 8 100
	{ 1 cwt. nitrate of soda - - - }		
IV.	{ 4 cwt. bone meal - - - }	1 15 0	2 0 96
	{ 1 cwt. nitrate of soda - - - }		
V.	{ 4 cwt. steamed bone flour - - - }	1 12 0	2 8 100
	{ 1 cwt. nitrate of soda - - - }		
VI.	4 cwt. superphosphate - - -	0 12 7	2 3 48
VII.	6 cwt. basic slag - - -	0 12 9	1 12 64
VIII.	4 cwt. dissolved bones - - -	1 4 0	1 11 16
IX.	4 cwt. bone meal - - -	1 4 0	1 9 82
X.	4 cwt. steamed bone flour - - -	1 1 0	1 11 96

The results on the table show the effects of the various manures the first year after application. The experiment will be continued for two or three years to test the after effects. No further manures will be applied. The results on plots 6 and 7 show an advantage for superphosphate over basic slag, but it remains to be seen whether this advantage will be continued during the next two seasons. It will be noted that on the plots which were dressed with nitrate of soda in addition to a phosphatic manure, the results, with one exception, are better than on the plots to which no nitrate of soda was applied. It will be interesting next season to compare the results on the nitrate plots with those on the plots which received no nitrate.

REPORT ON EXPERIMENTS WITH GRASS SEEDS IN SOUTH CARNARVONSHIRE.

In the spring of 1893 experiments with various grass seed mixtures were initiated at three farms in South Carnarvonshire. The seed mixtures were sown with barley or oats following a root crop. During 1894 hay will be taken from the plots, which will afterwards be grazed for three years. The table shows the amount of grass and clover seeds per acre sown on each plot. Each plot is one-fourth of an acre in size.

Name of Grass or Clover.	Plot I.	Plot II.	Plot III.	Plot IV.
	lb.	lb.	lb.	lb.
Perennial ryegrass - - - -	32	24	16	—
Italian ryegrass - - - -	—	8	—	4
Cocksfoot - - - -	—	—	4	8
Timothy - - - -	—	—	2	6
Meadow fescue - - - -	—	—	2	6
Red clover - - - -	5	5	5	5
Alsike clover - - - -	3	3	3	3
White clover - - - -	2	2	2	2
Total seed per acre - - -	42	42	34	34
Total cost per acre - - -	19s.	19s. 8d.	21s.	27s.

At Bodnithoedd all the plots looked remarkably well in the autumn of 1893; probably Plot IV. showed more herbage than any of the others. The grass seeds on all the plots compared very favourably with those sown on the part of the field not under experiment. The soil here is a good barley soil, and is of a light loamy character.

At Tycerrig and at Plas Llecheiddior the different plots also promise well. At the latter centre the soil is light in character with a yellow gravelly subsoil. The grass seeds were sown with barley after roots. In September all the plots looked as if one-third less seed might have been sown. On the rest of the field 8 lbs. Welsh red clover and some home-grown grass seeds were sown. The clover looked well in the autumn, but the grasses were poor. There was an abundance of rib-grass, a common and very troublesome weed, which is almost invariably found in large quantity in North Wales, where home-grown seeds have been sown.

In December 1893 the plots at each of the centres were cross-dressed with various manures as shown in the following table:—

Plot.	Manure per Acre.	Cost per Acre.
		£ s. d.
Cross Plot A - - -	No manure - - - -	—
Cross Plot B. - - -	4 cwt. basic slag - - - -	0 8 6
Cross Plot C. - - -	{ 4 cwt. basic slag - - - -	0 19 6
	{ 1 cwt. nitrate of soda - - - -	
Cross Plot D. - - -	{ 4 cwt. basic slag - - - -	1 4 6
	{ 2 cwt. kainit - - - -	
	{ 1 cwt. nitrate of soda - - - -	

The basic slag and kainit were applied in December 1893. The nitrate of soda was applied in April 1894.

EXPERIMENTS WITH SWEDES.

This experiment was carried out at five centres in Anglesey and at one centre in Carnarvonshire. The different manures applied and the quantities per acre will be found in the following table, giving the results of the experiments:—

RESULTS OF EXPERIMENTS WITH SWEDES.

Plot.	Manure per Acre.	Cost per Acre.	Weight of Roots per Acre.											
			Bodhunod.		Parys.		Bodafon.		Braint.		Brynmaethln.		Cefn-treseiont.	
			T.	c. lb.	T.	c. lb.	T.	c. lb.	T.	c. lb.	T.	c. lb.	T.	c. lb.
I.	No manure - - -	£ s. d. --	21	6 48	9	17 16	15	3 64			17	13 64	11	8 64
II.	5 cwt. superphosphate - -	0 15 9	39	2 16	26	15 80	32	19 32	25	0 100	19	14 92	26	3 24
III.	6 cwt. basic slag - - -	0 12 9	37	5 80	28	8 104	32	0 80	27	19 92	16	10 0	25	0 0
IV.	4 cwt. dissolved bones - -	1 4 0	38	9 12	22	6 28	30	12 96	26	10 40	20	12 56	26	13 104
V.	{ 5 cwt. superphosphate { 1 cwt. nitrate of soda - -	1 6 9	42	12 96	28	3 64	33	6 28	28	17 56	14	14 72	25	3 72
VI.	{ 6 cwt. basic slag - - { 1 cwt. nitrate of soda - -	1 3 9	41	19 92	27	18 24	33	1 68	26	10 40	16	15 100	26	12 16
VII.	{ 3 cwt. fish meal - - { 3 cwt. superphosphate - -	1 6 8	38	15 60	33	16 88	34	2 56	31	16 48	18	17 16	26	10 40
VIII.	{ 2 cwt. Peruvian guano - { 3 cwt. superphosphate - -	1 11 5	49	15 40	30	13 104	34	14 12	27	19 72	22	19 72	26	6 88
IX.	{ 3 cwt. superphosphate - - { 4 cwt. basic slag - -	0 17 11	35	17 96	35	10 40	33	15 60	27	19 92	19	8 104	27	4 72

The results at Bodhunod are exceedingly good; on plot VIII. nearly 50 tons of roots per acre were grown. The field at Bodhunod is a free loam of good quality. It was under oats in 1892, and had previous to that time been under pasture for 8 or 9 years. Last autumn the stubble received about 20 tons per acre of farmyard manure, and this, probably, together with the fact that the drills were only 20 inches wide, accounts for the excellent results obtained.

The land at Parys is somewhat similar in character to that at Bodhunod. Oats were removed from this land during 1891 and 1892. It had previously been pastured for some years. No manure had been applied to the pasture or to the oats; but the stubble was dressed with 15 tons farmyard manure per acre last autumn.

At Bodafon the soil is a medium loam. It has been cropped as follows:—1888, swedes, manured with farmyard manure and superphosphate; 1889, oats and grass seeds; 1890, hay; 1891, hay, dressed with 3 cwt. per acre of grass manure; and 1892, oats, dressed with 3 cwt. per acre of superphosphate.

The soil at Braint is fairly strong. In 1892 it was under oats and had been pastured for 20 years previously. No manure had been applied.

The soil at Brynmaethlu is a strong clay. It had been cropped as follows:—1887–90, pasture; 1891, oats; 1892, oats, dressed with 4 cwt. of superphosphate per acre.

The field at Cefntreseiont was a light loam with an intermixture of the underlying gravel.

The results are on the whole satisfactory. The crop, however, suffered in most cases from mildew, notably at Brynmaethlu; in some cases also "finger and toe" was apparent. Practically all the dressings applied have given good results; they show that phosphatic manures are of great importance for this crop. Superphosphate and basic slag have given very similar results. The striking results are:—at Bodhunod remarkably heavy crops of roots were grown. This is accounted for by the dressing of farmyard manure, with the addition of an application of artificials. When we compare the results on plots 2 and 3, and on plots 5 and 6, we find that there is not very much difference in the effects of the two phosphatic manures, superphosphate and basic slag. Plots 2 and 3 show in nearly every case a large increase in the crop, where phosphatic manures are applied. Dissolved bones, although more expensive, do not give as good results on the whole as either superphosphate or basic slag. The addition of nitrate of soda has been attended with good results at Bodhunod, and has given a slight increase at Bodafon, but not at the other centres. On the whole fish meal and Peruvian guano applied on plots 7 and 8 have given good results. The dressing of mixed phosphatic manures applied on plot 9 gave satisfactory results at Parys and Cefntreseiont.

All the manures were applied in the drills previous to the sowing of the swedes, with the exception of the nitrate of soda, which was applied shortly after the swedes were thinned.

EXPERIMENTS ON POTATOES.

Experiments on potatoes were carried out at one centre only. The land was a poor free working soil with a clay sub-soil. Previous to 1891 it was under pasture; in that year and in 1892 it was cropped with oats, 3 cwt. of superphosphate per acre having been applied in the latter year. The farmyard manure and all the artificial manures were applied in the drills before the planting of the crop, with the exception of nitrate of soda, which was afterwards applied as a top-dressing.

II.—EXPERIMENTS AIDED BY BOARD OF AGRICULTURE. 45

The results of the experiments are satisfactory. Farmyard manure by itself gives an excellent result. Artificials without farmyard manure give a poor result on plot 11, but an excellent result on plot 12. The results on plots 7 and 8 show a slight advantage, and on plots 11 and 12 a great advantage, for sulphate of ammonia over nitrate of soda. The results on plot 8 seem to indicate that the manures per acre applied to this plot are an excellent dressing for potatoes. The manures applied on plot 7 give nearly as good a result. The potatoes were all of good quality and were fairly even in size.

RESULTS OF EXPERIMENT WITH POTATOES.

Plot.	Manure per Acre.	Cost per Acre.	Weight of Tubers per Acre.
I.	No manure - - - - -	£ s. d.	T. c. lb.
II.	15 tons farmyard manure - - - - -	3 15 0	7 18 64
III.	{ 15 tons farmyard manure - - - - - 3 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - }	4 18 5	8 7 16
IV.	{ 15 tons farmyard manure - - - - - 3 cwt. superphosphate - - - - - 1 cwt. nitrate of soda - - - - - }	4 15 5	9 8 64
V.	{ 15 tons farmyard manure - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. nitrate of soda - - - - - }	5 0 0	9 19 32
VI.	{ 15 tons farmyard manure - - - - - 3 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. nitrate of soda - - - - - }	5 9 5	9 15 0
VII.	{ 15 tons farmyard manure - - - - - 4 cwt. basic slag - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. nitrate of soda - - - - - }	5 8 6	10 7 96
VIII.	{ 15 tons farmyard manure - - - - - 3 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. sulphate of ammonia - - - - - }	5 10 5	10 14 32
IX.	{ 15 tons farmyard manure - - - - - 2 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - 2 cwt. Peruvian guano - - - - - }	5 17 2½	10 3 60
X.	{ 15 tons farmyard manure - - - - - 4 cwt. dissolved bones - - - - - 2 cwt. sulphate of potash - - - - - }	5 13 0	9 2 16
XI.	{ 3 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. nitrate of soda - - - - - }	1 14 5	4 14 32
XII.	{ 3 cwt. superphosphate - - - - - 2 cwt. sulphate of potash - - - - - 1 cwt. sulphate of ammonia - - - - - }	1 15 5	8 17 96

EXPERIMENTS TO TEST THE BEST QUANTITY OF SEED TO SOW
FOR OATS.

In some parts of Anglesey it is the custom to sow 8 imperial bushels of corn per acre. Reference is made to oats in particular, as there is practically no other corn crop grown in the county. The reason given for sowing this somewhat excessive quantity is, that the straw is less liable to lodge with thick sowing than when a smaller amount of seed is sown.

The cause assigned by botanists for the "laying" of corn is insufficient exposure to sunlight and air. The greatest exposure will doubtless be secured where the sowing is thin, and accepting this view we should expect to find less laid corn where a small quantity of seed had been applied. This conclusion is manifestly at variance with the practice in Anglesey.

It is usually accepted as true that the quantity of seed per acre varies with the condition of the land, and with the time of sowing, a greater quantity being sown where the land is in poor condition, and when the season is late.

In the spring of last year an opportunity presented itself on a farm in Anglesey for trying an experiment with different quantities of seed per acre. The farmer on whose land this experiment was conducted took great pains with the work, which was all done under his personal supervision.

The soil was strong, and the land selected for the experiment was of uniform texture. Three plots, each one quarter of an acre in size, were measured off, and were manured with superphosphate at the rate of 4 cwt. per acre, and afterwards top-dressed with nitrate of soda at the rate of 1 cwt. per acre.

Black Tartarian oats of good quality were sown; the following table showing the results:—

Plot.	Seed per Acre.	Yield per Acre of Dressed Corn.	Weight of Corn per Bushel.
I.	2 bushels.	40½ bushels.	40 lb.
II.	4 ditto.	49½ ditto.	40 lb.
III.	6 ditto.	48 ditto.	43 lb.

The summer was so dry that the yield of straw has been much smaller than usual. No opinion can therefore be given as to the effect of the different quantities of seed on the laying of the straw, but there can be no doubt that the dry season was in favour of the thick rather than the thin sowing. Some interesting facts were disclosed which certainly call for further inquiry. As was expected, the yield on plot I. was less than on the other plots. It is, however, a curious fact that the oats on plot III. weighed 3 lb. per bushel more than on the other two plots.

The straw was not weighed on any of the plots.

EXPERIMENTS ON PASTURE LAND IN MONTGOMERYSHIRE.

Two experiments on pasture land were initiated in the autumn of 1892 in Montgomeryshire at Mathyrafal and Garthbeibio. On account

of the exceedingly dry season, the results were not as favourable as was expected; but this year they promise to be much more satisfactory.

The land at Mathyrafal Farm, which has been under pasture for 6 years, is of medium quality, and rather stiff in character. Before the beginning of the experiment the pasture was thin at the root, very little clover was present, and the herbage was somewhat wiry in character.

The following table shows the amount and description of the manures used on the plots, the cost per acre, and the amount of hay obtained at Mathyrafal:—

No. of Plot.	Manure per Acre.	Cost per Acre.	Weight of Hay per Acre.		
			Tons	cwt.	lb.
1	6 cwt. basic slag - -	£ s. d. 0 12 9	1	3	80
2	6 cwt. basic slag - -	1 3 9	1	12	64
	1 cwt. nitrate of soda - -				
3	4 cwt. superphosphate - -	0 12 7	1	6	104
4	3 tons lime - - -	2 2 0	1	5	16
5	16 tons farmyard manure -	3 12 0	1	9	40
6	No manure - - -	—	0	14	32
7	4 cwt. dissolved bones - -	1 4 0	0	15	0

The above table shows the results for the first year only. A close examination of the portions of the plots which had been pastured showed that the herbage on the plots to which basic slag and superphosphate had been applied was sweeter and closer at the root, and was apparently more relished by the stock. All the manures, with the exception of the nitrate of soda, were applied in December 1892. No further manure will be applied, but the experiments will be continued in order to test the after effects of the manures.

The plots at Garthbeibio, which were manured in a similar manner to those at Mathyrafal, were grazed last summer, and will be mown this year. In September 1893 a portion of the unmanured plot was dug to a depth of a few inches, and was divided into six equal portions as shown in the following plan:—

C ₁	C ₂
B ₁	B ₂
A ₁	A ₂

In the middle of September 1893 plots A₁, A₂, were dressed with 39 lb. of lime, equivalent to a dressing of 3 tons of lime per acre, plots B₁, B₂, were dressed with 4 lb. basic slag, equivalent to a dressing of 6 cwt. per acre, and plots C₁, C₂, were not manured. On plots A₁, B₁, C₁, number 1 grass seeds mixture was sown, and on plots A₂, B₂, C₂, number 2 grass seeds mixture was sown. The following table shows the composition of both grass seed mixtures and their cost per acre.

NUMBER 1.

	($\frac{1}{115}$ of an acre.)	Per acre.
4½ oz.	Perennial ryegrass - - - - -	20 lb.
	Italian ditto - - - - -	4 "
	Cocksfoot - - - - -	4 "
	Red clover - - - - -	2 "
	White ditto - - - - -	1 "
	Alsike ditto - - - - -	1 "
		32 lb.

At 14s. 3d. per acre.

NUMBER 2.

	($\frac{1}{115}$ of an acre.)	Per acre.
4½ oz.	Perennial ryegrass - - - - -	6 lb.
	Italian ditto - - - - -	3 "
	Cocksfoot - - - - -	6 "
	Meadow foxtail - - - - -	2 "
	Meadow fescue - - - - -	6 "
	Timothy - - - - -	2 "
	Red clover - - - - -	2 "
	White ditto - - - - -	1½ "
	Alsike ditto - - - - -	1 "
	Birdsfoot trefoil - - - - -	½ "
		30 lb.

At 21s. 7d. per acre.

(2.) THE DURHAM COLLEGE OF SCIENCE on behalf of the
COUNTY COUNCILS of DURHAM and NORTHUMBERLAND.

(DR. WM. SOMERVILLE.)

(A.) The MANURING of SWEDES at 9 STATIONS in
NORTHUMBERLAND.

(a.) *The most profitable Quantity of Nitrate of Soda to add to an
Artificial Manure.*

Five cwt. of superphosphate and 2 cwt. of kainit constituted the general mineral manuring per acre, nitrate of soda being added to the extent of $\frac{1}{2}$, 1, $1\frac{1}{2}$, and 2 cwt. per acre. The following table shows the average for the 9 stations.

Plots.	Manure.	Yield.
		Tons cwt.
1	No manure - - - - -	13 18 $\frac{3}{4}$
2	Minerals alone - - - - -	19 3 $\frac{3}{4}$
3	Minerals + $\frac{1}{2}$ cwt. nitrate - - - - -	19 11
4	" + 1 " - - - - -	19 14 $\frac{1}{2}$
5	" + $1\frac{1}{2}$ " - - - - -	19 18
6	" + 2 " - - - - -	21 1 $\frac{1}{4}$

The nitrate of soda, when used to the extent of $\frac{1}{2}$, 1, and $1\frac{1}{2}$ cwt. per acre, has produced comparatively little effect, probably because the season 1893 was exceptionally warm, and consequently unusually favourable to the natural production of nitrates in the soil. The comparatively large increase obtained from plot 6 may be due to the fact that there all the nitrate of soda had not been utilised by the time the genial rains and more favourable weather conditions of August appeared, and consequently the plants growing on that plot were able to respond to the more favourable conditions of growth which then prevailed. The crop on the other plots, however, would be unable to take advantage of the favourable weather of autumn, on account of the deficiency of nitrogenous plant-food. This experiment will be repeated next season.

(b.) *The comparative Merits of Nitrate of Soda and Sulphate of Ammonia and of a Mixture of these Substances.*

Equal quantities of nitrogen were applied in the form of 1 cwt. nitrate of soda, 86 lb. of sulphate of ammonia, and a mixture containing 56 lb. of the former and 43 lb. of the latter. As before, the general mineral manure consisted of 5 cwt. superphosphate and 2 cwt. kainit.

Plots.	Manure.	Yield.
		Tons cwt.
4	Minerals + 1 cwt nitrate - - - - -	19 14 $\frac{1}{2}$
9	" + 86 lb. sulphate of ammonia - - - - -	20 3
10	" + { 56 lb. nitrate - - - - - 43 lb. sulphate of ammonia } - - - - -	20 18

The sulphate of ammonia proved superior to the nitrate of soda to the extent of $8\frac{1}{2}$ cwt. of swedes per acre, while the mixed nitrogenous dressing gave distinctly the best results of all. This was, theoretically, what one would have expected, the quick-acting nitrate stimulating growth in the early part of summer, while the slow-acting sulphate of ammonia would come into use later on in the season. The advantages of mixing phosphatic manures of varying degrees of solubility were demonstrated in 1892, so that the results obtained during the past two seasons show how, without incurring any additional expense, the yield of turnips may be materially increased.

(c.) *The Effects of Kainit on the Swede Crop.*

A manurial dressing consisting of 5 cwt. of superphosphate and 1 cwt. of nitrate of soda was applied to three of the plots on the 9 stations, being supplemented in two cases by 2 cwt. and 4 cwt. of kainit respectively. In 1892 it was proved that a small dose of kainit applied in the drill produced a profitable increase, and, as the following table will show, this result was confirmed in 1893, when the kainit was applied in the same manner.

Plots.	Manure.	Yield.
		Tons cwt.
7	Superphosphate and nitrate alone - -	18 6 $\frac{3}{4}$
4	Superphosphate and nitrate + 2 cwt. kainit	19 14 $\frac{1}{4}$
8	" " " + 4 " "	20 17

The first 2 cwt. of kainit (plot 4) increased the crop by 1 ton 7 $\frac{1}{2}$ cwt., of roots per acre, while the 2nd 2 cwt. (plot 8) still further added to the crop to the extent of 1 ton 2 $\frac{3}{4}$ cwt. In both cases, then, the kainit proved a very profitable addition. The only two stations where the kainit failed to act were close upon the sea coast, and had been dressed with sea-weed at a recent date, besides being constantly under the influence of the sea-spray, which contains a certain proportion of potash and a large per-centage of common salt, which is capable of liberating potash in the soil.

(d.) *The Effects of supplementing Farmyard Manure with Artificials.*

Dung was applied to all the plots from 11 up to 18, at the rate of 16 loads per acre, with the addition, if any, of the artificials indicated in the accompanying table.

Plot.	Manure.	Yield.
		Tons cwt.
11	16 loads dung - - -	21 17 $\frac{1}{4}$
12	" + $\frac{1}{2}$ cwt. nitrate - -	21 18
13	" + 1 " " - -	23 18
14	" + 2 $\frac{1}{2}$ cwt. superphosphate -	23 6
15	" + 5 " " - -	22 3 $\frac{1}{2}$
16	" + 2 " kainit - -	21 18
17	" + $\frac{1}{2}$ " nitrate + 2 $\frac{1}{2}$ cwt. superphosphate.	22 9 $\frac{1}{2}$
18	" + $\frac{1}{2}$ cwt. nitrate + 2 $\frac{1}{2}$ cwt. superphosphate + 2 cwt. kainit.	23 2 $\frac{1}{2}$

The addition of $\frac{1}{2}$ cwt. of nitrate of soda to the dung (plot 12) has had practically no effect, while a comparison of plots 14 and 17 will show that when the same quantity of nitrate was added to dung, and $2\frac{1}{2}$ cwt. of superphosphate, it increased the crop by less than 4 cwt. per acre. Where the second $\frac{1}{2}$ cwt. of nitrate was applied to plot 13 it increased the yield by 1 ton although the first $\frac{1}{2}$ cwt. could stimulate growth only to the extent of $\frac{3}{4}$ cwt. per acre. The explanation of the failure of the smaller dressing and the success of the larger quantity is probably the same as that already offered.

The effect of adding $2\frac{1}{2}$ cwt. of superphosphate to the dung (plot 14) will be seen to be an increase of $8\frac{3}{4}$ cwt. of roots, while the double dressing of that substance applied to plot 15 has been unattended by any advantages.

The effect of $2\frac{1}{2}$ cwt. of superphosphate will again be seen by comparing plots 12 and 17, when it will be found to have resulted in an increase of crop to the extent of $11\frac{3}{4}$ cwt.

The kainit which plot 16 received has been practically inoperative, but it has done considerably better on plot 18 when assisted by other artificials. 2 cwt. of kainit is the only difference in the manurial dressing of plots 17 and 18, and it will be seen to have been the means of increasing the crop by 13 cwt. per acre.

The general conclusion to be drawn from this section of these experiments is that in such a season as the last no artificial manure had much effect on the swede crop when added to 16 loads of good farmyard manure, if the latter was applied just before sowing the seed.

Turnips grown under the influence of 2 cwt. of nitrate of soda and 4 cwt. of kainit respectively were examined for water, when it was found that the nitrate raised the per-centage of water from 90·23 to 91·06, while the kainit reduced it from 90·22 to 89·89. If, then, the quantity of water present in roots is any index of quality, it will be seen that the nitrate has lowered the quality while the kainit has raised it.

(B.)—The MANURING OF SWEDES at 6 STATIONS in duplicate in COUNTY DURHAM.

The following table shows the manuring and average yield per acre :—

Plots.	Manure per Acre.	Yield.
		Tons cwt.
1	Nothing - - - - -	14 15
2	$1\frac{1}{2}$ cwt. nitrate + 5 cwt. kainit - - - - -	16 3
3	$1\frac{1}{2}$ cwt. nitrate + 5 cwt. kainit + 857 lb. superphosphate - - - - -	20 $19\frac{1}{2}$
4	$1\frac{1}{2}$ cwt. nitrate + 5 cwt. kainit + 1,012 lb. slag - - - - -	19 17
5	$1\frac{1}{2}$ cwt. nitrate + 5 cwt. kainit + 635 lb. slag - - - - -	19 $16\frac{1}{2}$
6	$1\frac{1}{2}$ cwt. nitrate + 857 lb. superphosphate - - - - -	18 17
7	16 loads dung - - - - -	18 $10\frac{1}{2}$
8	16 loads dung + $1\frac{1}{2}$ cwt. nitrate + 857 lb. superphosphate - - - - -	22 $12\frac{1}{2}$
9	16 loads dung + $1\frac{1}{2}$ cwt. nitrate + 857 lb. superphosphate + 5 cwt. kainit.	22 $6\frac{1}{2}$
10	16 loads dung + $1\frac{1}{2}$ cwt. nitrate + 1,012 lb. slag + 5 cwt. kainit.	21 $3\frac{1}{2}$

(a.) *The relative merits of Superphosphate and Slag.*

One object of these experiments was to ascertain whether, for the same expenditure of money, slag or superphosphate would give the

better return. In the case of these Durham tests the slag, kainit, and farmyard manure were applied to the stubble in autumn before ploughing, while the nitrate of soda and superphosphate were applied to the drill in the month of May.

Plots 3 and 4 received an equal quantity of nitrate and kainit and an equal money value (20s. 8d.) of phosphatic manure, which in the one case took the form of 857 lb. of superphosphate (28 per cent. sol.), and, in the other, of 1,012 lb. of slag, containing 37·70 per cent. of phosphate of lime. On the average of the 6 duplicate stations the superphosphate on plot 3 produced 1 ton 2½ cwt. of swedes in excess of the crop grown by the slag on plot 4.

The relative merits of superphosphate and slag—equal money values—were also tested on plots 9 and 10, in this case along with farmyard manure. The result was practically the same as before, the excess of crop in favour of the superphosphate being 1 ton 2½ cwt. of roots.

On plots 3 and 5 superphosphate and slag were again compared, in this case the comparison consisting in testing the effectiveness of equal quantities of phosphoric acid derived, in the one case, from 857 lb. of superphosphate (plot 3), and, in the other, from 635 lb. of slag (plot 5). Again it will be seen that the superphosphate has proved superior to the slag.

A comparison of plots 4 and 5 will show that 1,012 lb. of slag did practically no better than 635 lb., the profitable limit having apparently been reached with the smaller dressing.

(b.) *The necessity for Kainit in a Turnip Manure.*

The only difference in the manuring of plots 3 and 6 was that the former received 5 cwt. of kainit while the latter received none. The effect of the application of that substance has been to raise the yield from 18 tons 17 cwt. to 20 tons 19½ cwt., an increase, namely, of 2 tons 2½ cwt. of roots per acre. Both in Northumberland and in Durham the kainit has paid well when used without dung, and appears to be quite as effective in increasing the yield of crop on heavy land as on light.

A comparison of plots 8 and 9 of the last table will show that where dung was employed kainit did no good, possibly, in fact, it did a little harm.

(c.) *The necessity of Phosphates in a Turnip Manure.*

On the average of the 6 duplicate stations in the county of Durham it will be seen that the nitrate and kainit alone (plot 2) were capable of increasing the crop by only 1 ton 8 cwt. per acre. When, however, 857 lb. of superphosphate were added to plot 3 the yield was sent up by 4 tons 16½ cwt. per acre.

(d.) *The Effect of adding Artificial Manure to Stubble Dung.*

In the case of these Durham trials 16 loads of dung applied in autumn to plot 7 produced 18 tons 10½ cwt. of swedes, while the addition of 1½ cwt. of nitrate of soda and 857 lb. of superphosphate to the dung on plot 8 resulted in an increase of 4 tons 2 cwt. of roots. Evidently, then, artificial manure is capable of producing a profitable increase when added to dung that has been applied in autumn, although it failed to do much good in Northumberland when used as a supplement to dung in the drill. The result of further trials in this direction will be found below.

(c.)—ROTATION EXPERIMENTS at NETHERTON in NORTHUMBERLAND.

These experiments, which are conducted in duplicate, were started in the autumn of 1891, and are chiefly concerned with determining the best mode of applying farm yard manure during a rotation. As will be seen from the accompanying table, however, other matters of a practical character are also being dealt with.

Plots.	Manure per Acre.	Yield.		
		Original.	Duplicate.	Average.
		Tons cwt.	Tons cwt.	Tons cwt.
1	Nothing	17 1 $\frac{1}{2}$	11 18 $\frac{1}{2}$	14 2 $\frac{1}{2}$
2	16 loads of dung in the drill	25 6 $\frac{1}{2}$	23 6 $\frac{1}{2}$	24 6 $\frac{1}{2}$
3	16 loads of dung on the stubble	20 13 $\frac{1}{2}$	14 17 $\frac{1}{2}$	17 15 $\frac{1}{2}$
4	24 loads of dung on the stubble	18 3	14 19 $\frac{3}{4}$	16 11 $\frac{1}{2}$
5	32 loads of dung on the stubble	19 6 $\frac{1}{2}$	14 7 $\frac{1}{2}$	16 16 $\frac{3}{4}$
6	16 loads of dung in the drill + 5 $\frac{1}{2}$ cwt. artificials in the drill.	24 13	21 11	23 2
7	16 loads of dung on the stubble + 5 $\frac{1}{2}$ cwt. artificials in the drill.	20 14 $\frac{1}{2}$	18 3 $\frac{1}{2}$	19 8 $\frac{3}{4}$
8	24 loads of dung on the stubble + 5 $\frac{1}{2}$ cwt. artificials in the drill.	21 10 $\frac{1}{2}$	19 10 $\frac{1}{2}$	20 10 $\frac{1}{4}$
9	24 loads of dung on the stubble + 11 cwt. artificials in the drill.	21 16 $\frac{1}{2}$	20 13 $\frac{3}{4}$	21 5
10	32 loads of dung on the stubble + 5 $\frac{1}{2}$ cwt. artificials in the drill.	21 3 $\frac{1}{2}$	20 2 $\frac{1}{2}$	21 0 $\frac{3}{4}$
11	8 loads of dung to oat crop, 1892. 8 loads of dung on the stubble for swedes + 5 $\frac{1}{2}$ cwt. artificals in the drill.	18 18 $\frac{3}{4}$	21 0 $\frac{1}{2}$	19 19 $\frac{1}{2}$
12	16 loads of dung to oat crop, 1892. 5 $\frac{1}{2}$ cwt. artificials in drill for swedes	19 1 $\frac{1}{2}$	13 3 $\frac{3}{4}$	18 12 $\frac{1}{4}$
13	5 $\frac{1}{2}$ cwt. artificials in the drill	20 1 $\frac{1}{2}$	17 11 $\frac{1}{4}$	18 16 $\frac{1}{4}$
14	8 loads of dung on the stubble + 5 $\frac{1}{2}$ cwt. artificials in the drill.	22 17 $\frac{1}{2}$	19 5 $\frac{1}{2}$	21 1 $\frac{1}{2}$
15	8 loads of dung to oat crop, 1892 + 5 $\frac{1}{2}$ cwt. artificials in the drill.	21 17	17 3 $\frac{1}{2}$	19 10
16	8 loads of dung to oat crop, 1892 + 5 $\frac{1}{2}$ cwt. artificials in the drill.	22 1 $\frac{3}{4}$	17 15 $\frac{1}{2}$	19 18 $\frac{1}{2}$

(a.) *The Effects of applying Farmyard Manure to Oats after Grass.*

In the autumn of 1891 dung to the extent of 8 and 16 loads per acre was applied to the grass land before ploughing for the oat crop, and in no case did it appear to have any effect upon the succeeding crop.

A comparison of plots 12 and 13 will show that on the average the 16 loads of dung applied to the oat crop have failed to improve the swede crop, while the figures furnished by plots 11 and 14, and by 13, 15, and 16, also go to show that the same substance applied to the extent of 8 loads per acre for the oat crop of 1892 has been practically thrown away.

(b.) *The relative Effects of applying Farmyard Manure in Autumn and in Spring.*

This point was tested on plots 2 and 3 where spring-dunging came out best to the extent of fully 6 $\frac{1}{2}$ tons of swedes per acre. The same quantities of dung were used on plots 6 and 7, in this case along with

5½ cwt. of mixed artificial manure (consisting of 2½ cwt. superphosphate, 2½ cwt. slag, and ½ cwt. nitrate of soda), and again it will be seen that the application of dung in spring proved superior to autumn-manuring on the average to the extent of 3 tons 13½ cwt. of roots per acre.

(c.) *The Effect of adding Artificial Manure to Farmyard Manure.*

The results obtained at 9 stations in Northumberland showed that when dung was applied just before the turnip seed was sown a supplementary dressing of artificials had very little effect. At Netherton exactly the same results were got, as will be seen from plots 2 and 6, the artificials added in the latter case being powerless to increase the crop.

When, however, the dung was applied in autumn and the artificials in spring the result obtained was very different. This is shown in the following table, where it will be seen that when added to 16, 24, and 32 loads of dung, the 5½ cwt. of artificials increased the crop to the extent of 1 ton 13½ cwt., 3 tons 19 cwt., and 4 tons 4 cwt. respectively per acre:—

Plots.	Manure.	Average yield.
		Tons cwt.
3	16 loads of dung on stubble, alone - - - - -	17 15½
7	16 loads of dung on stubble + 5½ cwt. artificials in drill -	19 8½
4	24 loads of dung on stubble, alone - - - - -	16 11½
8	24 loads of dung on stubble + 5½ cwt. artificials in drill -	20 10½
5	32 loads of dung on stubble, alone - - - - -	16 16½
10	32 loads of dung on stubble + 5½ cwt. artificials in drill -	21 0½

This is confirmatory of the Durham results, where artificials added to stubble-dung also increased the crop to a large extent.

It would appear that even on the strong land of Netherton, and during the exceptionally dry winter of 1892-93, great loss takes place in dung that has been ploughed into the land during the previous autumn. The result is that when the swede crop comes to occupy the ground it does not find enough plant-food to satisfy its wants even in 32 loads of dung, and therefore responds to the addition of artificial manure.

(d.) *The most economical Quantity of Farmyard Manure to apply per Acre.*

This subject is dealt with on plots 3, 4, and 5, where the dressing of farmyard manure (applied in autumn) is increased at the rate of 8 loads per acre without the crop benefiting to the slightest extent. The same matter is taken up on plots 14, 7, 8, and 10, where it will be seen that the smallest dressing had as much effect as the largest. This is certainly a most unexpected result and must be accepted with caution pending further investigations.

(e.) *The Effect of doubling the Dose of Artificials.*

Plots 8 and 9 receive equal quantities of farmyard manure (24 loads per acre), but plot 9 gets 11 cwt. of mixed artificials as contrasted with half the quantity put on to plot 8. The increase in crop is only some 15 cwt. per acre, a result which bears out the other Northumberland and Durham experiments, where an increase in the artificial dressing was in several cases not accompanied by an increase in the crop.

(D.)—MANURING OF GRASS LAND for HAY.

This experiment was conducted in duplicate on 5 farms in Northumberland, 4 of the stations being under old grass and one under first year "seeds." Each plot extended to $\frac{1}{40}$ acre. The slag and kainit were applied in autumn and the other manures towards the middle of April.

The first 8 plots comprise what is known as the "8 plot test." In this case the nitrogen was derived from 1 cwt. of nitrate of soda, the phosphoric acid from 498 lb. of slag, and the potash from 5 cwt. of kainit. The following table gives the average results of the 5 duplicate stations:—

GENERAL AVERAGE of the 5 STATIONS (FIRST CROP).

Plots.	Manure per Acre.	Yield.
		Tons cwt.
1	Nothing - - - - -	1 6 $\frac{3}{4}$
2	1 cwt. nitrate - - - - -	1 13 $\frac{1}{4}$
3	498 lb. slag - - - - -	1 7 $\frac{1}{4}$
4	5 cwt. kainit - - - - -	1 8
5	1 cwt. nitrate + 498 lb. slag - - - - -	1 13 $\frac{1}{4}$
6	1 cwt. nitrate + 5 cwt. kainit - - - - -	1 12 $\frac{1}{4}$
7	498 lb. slag + 5 cwt. kainit - - - - -	1 11
8	498 lb. slag + 5 cwt. kainit + 1 cwt. nitrate - - - - -	1 16 $\frac{3}{4}$
9	498 lb. slag + 5 cwt. kainit + 86 lb. sulph. of ammonia - - - - -	1 18 $\frac{3}{4}$
10	3 cwt. superphosphate + 5 cwt. kainit + 1 cwt. nitrate - - - - -	1 19 $\frac{3}{4}$

First, dealing with the 1 cwt. of nitrate of soda, it will be seen that when used alone it increased the crop by 6 $\frac{3}{4}$ cwt. per acre. A comparison of plots 3 and 5 will show that, when added to 498 lb. of slag, 1 cwt. of nitrate of soda stimulated growth to the extent of 5 $\frac{1}{2}$ cwt. of hay per acre. When added to the kainit (plots 4 and 6) it did hardly so well, producing an increase of only 4 $\frac{1}{4}$ cwt. of hay. When used as a supplementary dressing to both slag and kainit (plots 7 and 8) the same quantity of nitrate of soda is responsible for an increase of 5 $\frac{3}{4}$ cwt. Roughly speaking, then, 1 cwt. of nitrate of soda is capable of increasing the hay-crop in the first year by about 5 cwt per acre. How long it may continue to be capable of doing so remains to be seen, and, as the experiment is being carried through another year, some information on this subject will be available in 1894.

Used alone (plot 3) the slag has produced an increase of exactly 1 cwt. of hay. When added to nitrate (plots 2 and 5) the same substance has been almost inoperative, a $\frac{1}{4}$ cwt. of hay being all that can be placed to its credit. When added to kainit (plots 4 and 7) it has done distinctly better, having increased the crop by 3 cwt. per acre. Its best effects, however, come out on plot 8, where it is used along with both nitrate and kainit. These substances, when used without slag (plot 6), produced 1 ton 12 $\frac{1}{4}$ cwt., while the addition of 498 lb. slag increased the crop by 4 $\frac{1}{4}$ cwt. per acre. If the results are to be judged by the quantity of hay the slag has proved unprofitable except on plot 8, where, with hay at 3*l.* per ton, its use has resulted in a profit of about 3*s.* per acre.

Turning next to the action of kainit, alone and in combination with nitrate and slag, a comparison of the figures referring to plots 1 and 4 will show what that action has been when kainit was used alone. The accompanying table shows that on the average the 5 cwt. of kainit has produced $1\frac{1}{4}$ cwt. of hay. This increase was obtained almost exclusively from the young grass station. On three out of the four stations under old grass the kainit positively reduced the yield, whereas when applied to "seeds" the crop was improved by 13 cwt. per acre. The two sets of plots at the young grass station were perfectly consistent, there being very little difference in the weight of the crop. Probably this increase was almost exclusively due to the stimulating influence of the potash on the clover plants, and for certain purposes "clovery" hay is more in request than that which is almost entirely gramineous.

Comparing plots 2 and 6, we find that the kainit which has been added to the nitrate on the latter plot has, on the average, done a certain amount of harm. The kainit did distinctly better when used along with slag (see plots 3 and 7), it having produced an increase of $3\frac{1}{4}$ cwt. of hay. This increase was derived exclusively from the young grass station, where it amounted to $15\frac{1}{2}$ cwt. of hay. On the old-grass land the addition of kainit to slag was on the average practically without effect.

Finally, a reference to plots 5 and 8 will show the action of kainit when added to nitrate and slag. The average result over all the stations has been that the addition of 5 cwt. of kainit to a mixture consisting of 1 cwt. of nitrate and 498 lb. of slag has raised the crop of hay by $3\frac{1}{2}$ cwt. per acre. This increase was obtained in about equal proportions from the old and new grass land.

One point that comes out with considerable prominence in these experiments is that phosphatic, potassic, and nitrogenous manures give about their maximum return when all three are used. Both the slag and the kainit produced their largest increase on plot 8, while nitrate of soda also produced almost its maximum effect on that plot. This emphasizes the desirability of using properly compounded mixed manures.

On these five duplicate grass stations in Northumberland the relative effects of nitrate of soda and of sulphate of ammonia were also tested. The 1 cwt. of nitrate applied to plot 8 contained exactly the same amount of nitrogen as the 86 lb. of sulphate of ammonia which plot 9 received. The latter manure has proved superior to the extent of 2 cwt. of hay per acre, thus confirming the results got on the 9 Northumberland swede stations.

The comparative merits of slag and superphosphate were tested on plots 8 and 10, the 498 lb. of slag, which the former of these plots received, holding *twice* as much phosphoric acid as the 3 cwt. of superphosphate. As in the case of the Durham swede trials, so here the superphosphate has done considerably better than the slag, the gain in hay on the average being exactly 3 cwt. per acre.

The financial results of the application of these artificial manures in Northumberland are also satisfactory so far as they go. Of course one year's experience does not furnish sufficient information to enable one to speak with complete confidence, because it is of the greatest importance to ascertain what the effects of continued applications through a series of years may be. One may, however, reasonably anticipate that where a full general manuring is applied, as in the case of plots 8, 9, and 10,

that the fertility of the soil will be maintained, possibly improved. Neglecting the influence that the manures may have upon the quality of the herbage, and valuing the hay at 3*l.* per ton, we find that the 30*s.* worth of manure applied to plot 8 resulted in an increase of half a ton of hay, the same value of manure put on to plot 9 stimulated growth to the extent of 12 cwt., while the mixture applied to plot 10, and which cost only 28*s.* per acre, is accountable for 18 cwt. of hay. In other words, the increase of hay reaped from these three plots showed no profit in the case of plot 8, 6*s.* in the case of plot 9, and 11*s.* in the case of plot 10. But this by no means represents the full profit, because it may reasonably be supposed that all the manures left a considerable residue, and also that the aftermath, under the influence of these heavy dressings, was largely in excess of that produced on the unmanured plot.

(3.) THE UNIVERSITY COLLEGE OF WALES,
ABERYSTWYTH.

(MR. J. ALAN MURRAY.)

EXPERIMENTS ON MANURING GRASS LAND.

The experiment was carried out on an estate near Lampeter.

The season turned out a singularly unfortunate one for investigating the action of manures. Owing to the great drought which prevailed, the hay crop in many districts proved a complete failure, but at the station in question the results were better, and a crop averaging 14 or 15 cwt. per acre was obtained. The weight of hay from each plot was carefully determined, and, although the season was dry and very exceptional, the results seem to be sufficiently remarkable to be worth a careful perusal and criticism. Of course, under the circumstances, they cannot be considered as affording any reliable information concerning the action of the manures in a normal season.

The objects of the experiment were to determine:—

- i. What kinds of phosphatic and nitrogenous manure are most suitable for these districts.
- ii. What are the most economical proportions in which to apply them.

The experiment was carried out in the following manner:—

- 1st. The field was dressed in parallel lines I., II., III., &c., with different quantities of the various phosphatic manures.
- 2nd. The field was cross-dressed in parallel lines A., B., C., &c., with different quantities of the various nitrogenous manures.

The result was that each line throughout its entire length received the same quantity of one manure, but, in the cross-dressing, different quantities of the other.

TABLE I.

(Showing how each Line was manured.)

Dressing.	Cross-dressing.
Line.	Line.
I. No phosphatic manure.	A. No nitrogenous manure.
II. 112 lb. superphosphate per acre.	B. 112 lb. nitrate of soda per acre.
III. 224 " do. " "	C. 224 " do. " "
IV. 336 " do. " "	D. 90 " sulphate of ammonia "
V. 85 " basic slag " "	E. 180 " do. per acre.
VI. 170 " do. " "	
VII. 255 " do. " "	
VIII. 120 " bone meal " "	
IX. 170 " vitriolated bones " "	

85 lb. basic slag contain approximately the same quantity of phosphoric acid as 112 lb. superphosphate. Also 90 lb. sulphate of ammonia contain the same quantity of nitrogen as 112 lb. nitrate of soda. These quantities are therefore said to be chemically equivalent.

The manures were spread on May 5th, and the crop was mown on July 8th.

Each plot was $\frac{1}{32}$ part of an acre in size, and the actual weight of hay taken from each plot is given below in Table II.

TABLE II.
WEIGHT OF HAY taken from each PLOT.

Manure applied (per Acre).	Line.	A.	Nitrate of Soda.		Sulphate of Ammonia.	
			112 lb. B.	224 lb. C.	90 lb. D.	180 lb. E.
—	I.	17 lb.	35 lb.	47 $\frac{1}{4}$ lb.	34 lb.	69 lb.
112 lb. superphosphate :	II.	20 $\frac{3}{4}$ lb.	40 $\frac{1}{2}$ lb.	64 $\frac{1}{2}$ lb.	37 lb.	54 $\frac{3}{4}$ lb.
224 lb superphosphate -	III.	23 $\frac{1}{2}$ lb.	56 lb.	65 lb.	37 lb.	45 $\frac{1}{4}$ lb.
336 lb. superphosphate -	IV.	25 lb.	42 $\frac{3}{4}$ lb.	65 lb.	30 $\frac{1}{2}$ lb.	52 $\frac{3}{8}$ lb.
85 lb. slag - -	V.	21 lb.	42 $\frac{1}{2}$ lb.	51 $\frac{1}{4}$ lb.	31 $\frac{1}{4}$ lb.	42 $\frac{1}{4}$ lb.
170 lb. slag - -	VI.	24 lb.	44 $\frac{1}{2}$ lb.	66 $\frac{1}{2}$ lb.	38 $\frac{1}{2}$ lb.	50 lb.
255 lb. slag - -	VII.	29 lb.	46 $\frac{1}{2}$ lb.	67 $\frac{1}{2}$ lb.	42 $\frac{1}{2}$ lb.	53 lb.

For the sake of convenience the quantities given in Table II. have been calculated to pounds per acre and the results are given below in Table III. Some slight alterations have been made because, as may be seen from Table II., 180 lb. of sulphate of ammonia have given a larger crop when used alone than when used along with phosphatic manures. Now, the ground in that corner of the field (plot I. E.) is known to be of better quality, so that this seemingly extraordinary result is merely an example of the kind of error to which all field experiments are liable, owing to so many circumstances being beyond our control. Again, in plot III. B. the result is much too high—due in this case to the fact that an extra dose of nitrate was accidentally given. These unfortunate circumstances completely invalidate the parts of the experiments to which they refer. From considerations of other parts of the experiment, however, it is possible to guess approximately what results might have been obtained in these plots under normal conditions. The figures obtained in this way, although of no value for drawing conclusions, are interesting for the purpose of comparison and are therefore given enclosed in brackets.

TABLE III.
WEIGHT of HAY from each PLOT, pounds per acre.

Manure applied (per Acre).	Line.	A.	Nitrate of Soda.		Sulphate of Ammonia.	
			112 lb. B.	224 lb. C.	90 lb. D.	180 lb. E.
—	I.	544	1,120	1,512	(872)	(1,224)
112 lb. superphosphate	II.	664	1,296	2,064	1,184	(1,350)
224 lb. superphosphate	III.	744	(1,320)	2,080	1,184	1,448
336 lb. superphosphate	IV.	800	1,368	2,080	976	1,680
85 lb. basic slag -	V.	672	1,360	1,640	1,000	1,352
170 lb. basic slag - -	VI.	768	1,424	2,128	1,232	1,600
255 lb. basic slag - -	VII.	928	1,488	2,160	1,360	1,696

TABLE IV.
INCREASE (in pounds per acre) produced by PHOSPHATES applied
without and with NITROGEN.

Per Acre.	Applied alone.	Applied along with—			
		112 lb. Nitrate of Soda.	224 lb.	90 lb. Sulphate of Ammonia.	180 lb.
112 lb. phosphate produce incr. of	lb. 120	lb. 176	lb. 552	lb. 312	lb. 126
224 lb. " " "	200	200	568	312	224
336 lb. " " "	256	248	568	104	456
85 lb. slag " "	128	240	128	128	128
170 lb. " " "	224	304	616	360	376
255 lb. " " "	384	368	648	488	472

From examination of these results it appears that:—

I. When the phosphatic manures are applied alone—

(a.) The more phosphate used the greater the yield, but the increase is not proportional to the quantity of phosphate. On the contrary, each additional quantity of phosphate produces a smaller increase.

(b.) Each quantity of basic slag has produced a slightly larger increase than the corresponding quantity of superphosphate.

These conclusions are in the majority* of cases true also when the phosphates are applied along with nitrogen.

* The exceptions are probably due to accident.

II. When the phosphates are applied along with nitrogenous manures—

- (a.) The increase produced by each quantity of phosphate is greater than when it is applied alone.
 (b.) In nearly every case* the more nitrogen applied along with the phosphate the greater the increase produced by that phosphate.

TABLE V.

INCREASE (in pounds per acre) produced by NITROGENOUS MANURES applied without or with PHOSPHATES.

Per Acre.	Applied alone.	Applied along with :—					
		112 lb.	224 lb.	336 lb.	85 lb.	170 lb.	255 lb.
		Superphosphate.			Basic Slag.		
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
112 lb. nitrate of soda produces increase of - - -	576	632	576	568	688	656	560
224 lb. nitrate of soda produces increase of - - -	965	1,400	1,236	1,280	968	1,360	1,222
90 lb. sulphate of ammonia produces increase of - -	328	520	440	176	328	464	432
180 lb. sulphate of ammonia produces increase of - -	680	686	704	880	680	832	768

From examination of these results it appears that—

- (a.) Each quantity of nitrate of soda has produced a greater increase than the corresponding quantities of sulphate of ammonia.
 (b.) The increase produced by each quantity of nitrogenous manure is greater when it is applied along with phosphates than when applied alone.
 (c.) When the smaller quantity of nitrogenous manure (1 cwt. nitrate soda or 90 lb. sulphate of ammonia) is used, the increase produced by the nitrogen is greatest when the phosphate is least, or, in other words, the more phosphate applied the smaller the increase produced by the nitrogenous manure.
 (d.) When the larger quantity of nitrogenous manure (2 cwt. nitrate of soda or 180 lb. sulphate of ammonia) is used, the results are not so uniform, but they tend to show that, in this case, the greater the quantity of phosphate applied the greater the increase produced by the nitrogenous manure.

So far I have endeavoured simply to point out the facts without attempting any explanation of them. It would be a grave mistake to regard as general truths any conclusions drawn from the results of a single trial, especially one conducted in such an exceptional season. It may, however, be not amiss to suggest one or two points which will probably occur to all who examine the figures closely.

* The exceptions are probably due to accident.

It has been shown that within certain limits the more phosphate applied the larger the crop, but that each additional quantity of phosphate produces a smaller increase. We should therefore soon come to a point beyond which any further addition of phosphate would not increase the crop at all. This, of course, is just what we should expect, for, if it were otherwise, we could, by increasing the quantity of manure indefinitely, obtain as large a crop as we pleased. Now this is a very important point with reference to the economical use of manures, for it is obvious that, if more manure is applied than is required by a crop, it is wasted so far as that crop is concerned. At one time the idea was common among farmers that, if they could apply as much manure at one time as would last for several seasons, they had accomplished something worth doing. To those who hold these notions, if any such remain, I may point out that, during the years the manure lies idle in the soil, they receive no interest on their capital. Moreover, the money is in a very unsafe bank.

The superiority of the slag compared with the superphosphate may appear surprising, especially in a dry season, but, in view of the fact that the soil in these districts is generally deficient in lime, it is not improbable that it may be due to the greater quantity of lime which the slag contains rather than to a difference in the quality of the phosphates.

That the nitrate of soda has produced better results than the sulphate of ammonia is no doubt due, in part at least, to the greater solubility of the former. The difference is perhaps greater than might have been expected, but it would be emphasized by the dryness of the season.

One of the most important points ascertained by the investigations of the school of agricultural chemists already referred to is well brought out here, viz., that the results produced by the application of phosphatic and nitrogenous manures together are always better than those obtained by the application of either singly. This leads us directly to the problem which this experiment was designed to solve, namely, what is the proportion of phosphate to nitrogen required to produce the most favourable results? I must here repeat that the experiment will have to be tried several times, and in more than one district, before anything like a general answer can be returned to such a wide question. The figures obtained in this case however are very suggestive. It will be seen that, when the smaller quantity of nitrogen (112 lb. of nitrate of soda or 90 lb. sulphate of ammonia) is used, the excess produced by the nitrogen tends to decrease as the proportion of phosphate increases, i.e., the excess produced by the nitrogen is greatest when the proportion of phosphate is least. On the other hand, when double the quantity of nitrogen (224 lb. nitrate of soda or 180 lb. sulphate of ammonia) is employed, the results are not uniform, but the tendency is in the opposite direction, i.e., the excess produced by the nitrogen increases with the increasing proportion of phosphate. From consideration of these and other points of the experiment it appears that in the mixture containing unit quantities of nitrogen and phosphate the proportion of nitrogen is too small and that a more favourable result is obtained by increasing it. This, of course, does not refer to the actual quantities of phosphatic and nitrogenous manures required but merely to the proportion between them.

The following is the estimated cost for the quantities of manure used:—

	<i>s.</i>	<i>d.</i>
112 lb. superphosphate cost	-	3 0
85 „ basic slag	-	1 6
112 „ nitrate of soda	-	10 0
90 „ sulphate of ammonia	-	10 0

Thus, it appears that, for equivalent quantities, the cost of the basic slag is just half that of the superphosphate, while the cost of the sulphate of ammonia is exactly the same for equivalent quantities as that of the nitrate of soda.

If we deduct the cost of the manures from the value of the hay produced by them we get the profit on each plot. The profit on the unmanured plot is, of course, taken as zero, while for the present comparative purposes the price of hay has been taken at 5*l.* per ton.

TABLE VI.
PROFIT per acre from each PLOT.

Manure applied (per Acre).	Line.	No Nitro- gen. A.	Nitrate of Soda.			Sulphate of Ammonia.	
			112 lb.	224 lb.		90 lb.	180 lb.
			B.	C.		D.	E.
No phosphate - -	I.	—	15 <i>s.</i> 8 <i>d.</i>	23 <i>s.</i> 2 <i>d.</i>		4 <i>s.</i> 8 <i>d.</i>	10 <i>s.</i> 4 <i>d.</i>
112 lb. superphosphate -	II.	2 <i>s.</i> 4 <i>d.</i>	20 <i>s.</i> 7 <i>d.</i>	44 <i>s.</i> 11 <i>d.</i>		15 <i>s.</i> 7 <i>d.</i>	13 <i>s.</i>
224 lb. superphosphate -	III.	2 <i>s.</i> 11 <i>d.</i>	18 <i>s.</i> 8 <i>d.</i>	42 <i>s.</i> 7 <i>d.</i>		12 <i>s.</i> 7 <i>d.</i>	14 <i>s.</i> 4 <i>d.</i>
336 lb. superphosphate -	IV.	2 <i>s.</i> 5 <i>d.</i>	17 <i>s.</i> 10 <i>d.</i>	39 <i>s.</i> 7 <i>d.</i>		3 <i>d.</i>	21 <i>s.</i> 8 <i>d.</i>
85 lb. basic slag -	V.	4 <i>s.</i> 2 <i>d.</i>	24 <i>s.</i> 11 <i>d.</i>	27 <i>s.</i> 5 <i>d.</i>		8 <i>s.</i> 10 <i>d.</i>	14 <i>s.</i> 5 <i>d.</i>
170 lb. basic slag -	VI.	7 <i>s.</i>	26 <i>s.</i> 6 <i>d.</i>	47 <i>s.</i> 8 <i>d.</i>		17 <i>s.</i> 8 <i>d.</i>	24 <i>s.</i> 1 <i>d.</i>
255 lb. basic slag -	VII.	6 <i>s.</i> 2 <i>d.</i>	27 <i>s.</i> 7 <i>d.</i>	47 <i>s.</i> 7 <i>d.</i>		21 <i>s.</i> 11 <i>d.</i>	26 <i>s.</i> 11 <i>d.</i>

The most striking features of these results are:—

- i. Nitrogenous manures are more directly profitable than phosphatic manures.
- ii. It is more profitable to use phosphatic and nitrogenous manures together than either separately.
- iii. Nitrate of soda is a more profitable manure than sulphate of ammonia.
- iv. When the phosphates are applied without nitrogen, the profit arising from the use of 2 cwt. of superphosphate is only a very little more, while the profit from 3 cwt. is practically the same as that from 1 cwt., although the crop is larger. If 4 cwt. of superphosphate were used the profit from it would probably be less than from 1 cwt. It appears from this that the profit arising from the superphosphate is produced mainly by the first hundredweight, and although the second and third cwt. produce larger crops, the increase is little more than sufficient to pay the cost of the extra manure. In marked contrast to this we see that the basic slag has produced a larger profit than the superphosphate, and that each additional quantity of basic slag yields a higher profit.

If we neglect the extraordinary high profits from plots VI. C. and VII. C., as they are probably accidental, we find that the most profitable combination is 1 cwt. of superphosphate with 2 cwt. of nitrate of

soda, and the profit steadily decreases as we increase the proportion of phosphate. This corresponds with what has already been said about the ratio of phosphate to nitrogen. It is a remarkable fact and will form an important subject for future investigation.

Tables IV. and V., showing the increase in the weight of the crop produced by each separate quantity of manure, have already been given; similar tables showing the corresponding profits may be found interesting for comparison and are therefore given on the following page.

PROFIT (per Acre) produced by PHOSPHATIC MANURES, applied without and with NITROGEN.

Per Acre.	Applied alone.	Applied along with—			
		112 lb.	224 lb.	90 lb.	180 lb.
		Nitrate of Soda.		Sulphate of Ammonia.	
	lb.	lb.	lb.	lb.	lb.
112 lb. superphosphate produces a profit of -	2s. 4d.	4s. 11d.	21s. 8d.	10s. 11d.	2s. 7d.
224 lb. superphosphate produces a profit of -	3s. 0d.	2s. 11d.	19s. 4d.	7s. 11d.	4s. 0d.
336 lb. superphosphate produces a profit of -	2s. 6d.	2s. 1d.	16s. 4d.	—	11s. 4d.
85 lb. slag produces a profit of -	4s. 2d.	9s. 2d.	4s. 2d.	4s. 2d.	4s. 2d.
170 lb. slag produces a profit of -	7s. 0d.	10s. 7d.	24s. 6d.	13s. 0d.	13s. 9d.
255 lb. slag produces a profit of -	6s. 2d.	12s. 0d.	24s. 5d.	17s. 3d.	16s. 7d.

PROFIT (per Acre) produced by NITROGENOUS MANURES applied without and with PHOSPHATES.

Per Acre.	Applied alone.	Applied along with—					
		112 lb.	224 lb.	336 lb.	85 lb.	170 lb.	255 lb.
		Superphosphate.			Basic Slag.		
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
112 lb. nitrate of soda produces a profit of -	15s. 8d.	18s. 2d.	15s. 8d.	15s. 4d.	20s. 8d.	19s. 3d.	15s. 0d.
224 lb. nitrate of soda produces a profit of -	23s. 2d.	42s. 6d.	35s. 2d.	37s. 1d.	28s. 2d.	40s. 5d.	35s. 0d.
90 lb. sulphate of ammonia produces a profit of -	4s. 8d.	13s. 2d.	9s. 8d.	—	4s. 8d.	10s. 8d.	9s. 3d.
180 lb. sulphate of ammonia produces a profit of -	10s. 4d.	10s. 6d.	11s. 4d.	19s. 8d.	10s. 4d.	17s. 0d.	14s. 3d.

(4.) THE BATH AND WEST OF ENGLAND SOCIETY.

MR. C. R. KNOLLYS.

The experimental work of the Society in the year 1893 has been devoted to the improvement of permanent pastures, and it would probably be difficult to conceive a season more unfavourable than that of the past year for the successful conduct of field experiments of this class.

It may be remembered that in 1892 a scheme of experiments on a small scale was set on foot with the object of ascertaining "what artificial manures can be used with advantage in improving the herbage of old pasture," and with the ulterior object of ascertaining whether some scheme, on rather a larger scale, which would be both accurate and practical in its results, could not be arrived at.

The scheme consisted of five plots (unfenced, but their boundaries marked by pegs driven into the ground) of half an acre each, of which the central plot, E, was left unmanured, and the remainder (under the advice of Dr. Voelcker) were treated as follows:—

- A. 3 cwt. bone meal per acre.
- B. 10 cwt. basic slag per acre.
- C. 3 cwt. dissolved bones per acre.
- D. 2 tons lime per acre.

The plots were carefully inspected and reported upon periodically, and though at some of the experimental stations no appreciable difference between the plots could be observed, there was on the whole sufficient evidence to show that basic slag had been most successful, producing herbage which the stock grazed very much closer than that on the other plots.

The inspection of these plots was continued in 1893, with the result that, on a variety of soils, the plot B. (dressed with basic slag) fully maintained its superiority over the others, amongst which the action of the bone meal seems perhaps the most marked.

This scheme was followed up in 1893 by another set of experiments, with the object of "ascertaining the effect of certain dressings upon coarse or sour pastures."

The following is a reprint of the conditions under which these experiments are being conducted:—

The experiments are to be tried upon a pasture, the feeding quality of which, owing to coarseness or sourness, is deficient. The pasture should be grazed (not mown) for the next three years, and care should be taken not to select a field the feeding quality of which is deficient from want of draining or other known cause.

The plots, six in number, are to be half an acre in size, and, under the advice of Dr. Voelcker, are to be treated as follows:—

- a. 5 cwt. salt per acre.
- b. 6 cwt. kainit per acre.
- c. 2 tons lime per acre.
- d. 2 tons lime and 6 cwt. kainit per acre.
- e. 10 cwt. basic slag per acre.
- f. To be left untreated.

The lime should be that ordinarily used in the district for agricultural purposes, and is to be obtained by the experimenter and

charged to the Society. The artificial manures will be paid for by the Society and forwarded to the nearest railway station.

All the manures should be applied as soon as possible.

Wooden pegs should be driven in at the centre and corners of each plot.

At four of the experimental stations, on different varieties of soil, two plots of half an acre each were added, and to these were applied renovating mixtures of seeds, with a view of ascertaining whether any improvement could be made in the pasture in this way. These renovating mixtures varied in accordance with the character of the soil. These plots were then divided, and a different mixture, A and B, applied to each quarter acre, the price of the A mixture ranging from 12s. to 15s. per acre, and the B mixture from 9s. 6d. to 12s. During the latter part of May these two plots were dressed with 1 cwt. of nitrate of soda per acre.

The extraordinary season of 1893 renders any results at present obtained from these experiments not sufficiently definite to be put into print, and it is therefore proposed to defer any detailed statement of them until the effects of another season have been noted. It may, however, be added that, in these experiments also, basic slag is holding its own, though at present not perhaps to the same extent as in the 1892 scheme.

With regard to the renovating mixtures of seeds, the prolonged drought appears to have prevented their germination.

(5.) THE HIGHLAND AND AGRICULTURAL SOCIETY.

(DR. A. P. AITKEN.)

Does CHEMICAL ANALYSIS afford a reliable INDICATION of the FEEDING QUALITY of a PASTURE.

It is commonly observed that some pastures which grow abundance of grass, and whose grass seems to be relished by cattle, do not fatten stock so well as other pastures where the grass is apparently no more plentiful. There is a difference in the feeding quality of the grass which cannot be detected by even the most practised eye, and therefore it seemed a subject worthy of investigation to see how far it is possible by our present methods of chemical analysis to determine the relative feeding value of the grass grown on pastures of different fattening capabilities. I communicated with some members of the Society and of agricultural associations who I thought might have such pastures, and owing to their kind co-operation I was provided with a number of samples, not only of better and worse feeding grasses, but also of the soils and subsoils of the fields on which they grew.

It is scarcely possible to get a sample of grass that will represent the feeding quality of that which is eaten by stock, for not only do stock exercise a certain amount of selection in what they eat, but by their repeated cropping they alter the growth of the grass from week to week and consume it in a condition which cannot well be imitated. If it were to be imitated as nearly as possible it would have to be done by cropping the grass from week to week during the grazing season, and performing a large number of analyses of each pasture under investigation. That was out of my power, but nevertheless it seemed to me that as a preliminary investigation it would be useful to obtain samples of grass from any two pastures in the same district which were known to possess different feeding qualities in any convenient way. Some of those who assisted me in this were good enough to enclose with a fence what seemed to be representative parts of the pastures, and provide me with well-grown samples of the grass. It was impossible to determine the amount of moisture in these samples, as they had to come from a considerable distance. They were therefore air-dried in the laboratory, and analyses were made of the hay derived from the pasture-grass; but as grass does not lose anything but moisture when carefully dried, the constituents found are precisely those which the grass contained in the green state.

The only conditions attached to the taking of samples were that the pastures should be as nearly as possible equally rough and equally well relished by stock, and that they should be taken at the same time.

The first samples to be noticed were taken from three fields at Carbeth, marked 1, 2, and 3 in the order of merit—No. 1 being the best. Portions of the pasture were fenced off for the purpose, and the samples of grass were analysed with the following results:—

TABLE I.—PASTURES FROM CARBETH.

	1	2	3
Crude protein (N $\times$ 6.25) - - - - -	16.73	14.44	17.06
Containing albumen - - - - -	11.37	11.37	12.23
" amides, &c. - - - - -	5.36	3.07	4.81
Ether extract - - - - -	3.75	2.10	2.20
Solids soluble in $1\frac{1}{4}$ per cent. solution of sulphuric acid -	44.40	44.70	44.65
Containing carbohydrates - - - - -	28.86	30.90	31.45
" crude protein - - - - -	7.54	5.25	7.00
" ash - - - - -	8.00	8.55	6.20
Solids insoluble in $1\frac{1}{4}$ per cent. solution of sulphuric acid, but soluble in $1\frac{1}{4}$ per cent. solution of caustic potash.	32.70	35.10	35.00
Containing carbohydrates - - - - -	21.36	23.51	21.44
" crude protein - - - - -	9.19	9.19	10.06
" ash - - - - -	2.15	2.40	3.50
Woody fibre - - - - -	21.50	18.30	19.85
Residual ash - - - - -	1.40	1.90	.50
Total ash - - - - -	11.55	12.85	10.20
Moisture - - - - -	17.40	19.50	16.90

A few words of explanation are required in order that the analyses may be understood and conclusions drawn from the results.

By crude protein is meant the total nitrogenous matter of the grass, considered as consisting of albumen. It is a convenient term, and it is determined by discovering by analysis the total amount of nitrogen and multiplying that by 6.25. This crude protein consists partly of albumen and partly of amides and amido-acids; and besides these there are sometimes nitrates present in small amount, and also traces of other nitrogenous substances. The most important of these constituents is albumen, as it is from it that animals derive the material for the formation of flesh, nerve, sinew, and other nitrogenous tissues; and the amides also perform important functions in assisting in the formation of these substances or in protecting them from waste. The ether extract contains whatever fatty, oily, or waxy substances there are in the grass, and also other substances of less value as food, such as the chlorophyll or green colouring matter of the grass.

The great mass of the vegetable matter of the grass consists of what are collectively called carbohydrates, substances somewhat of the nature of starch. In these analyses they appear under two heads—those which are soluble in a solution of $1\frac{1}{4}$ per cent. sulphuric acid, and those which are insoluble in that, but soluble in a solution of $1\frac{1}{4}$ per cent. caustic potash. It was thought probable that some information might be obtained by distinguishing the carbohydrates and also the crude protein and ash under these two heads.

The rest of the vegetable matter insoluble in these two solutions is classified as woody fibre. The relative values of these two classes of carbohydrates and the woody fibre are very imperfectly known.

The three analyses of grass given above differ very little from each other, but any little difference that there is would lead one to infer that No. 3 was better than the other two.

It is not necessary to conclude from this that chemical analysis affords no reliable indication of feeding value. It is probable that the method of analysis would require to be modified in some way so as to give additional information regarding the very numerous substances included,

under the names carbohydrates and woody fibre. Collectively they represent about three-fourths of the entire fodder, and although they are very similar in chemical composition, we see that they differ very much in their solubility in weak acid and weak alkali, and they may be composed of substances which contribute very differently to the nutritiousness of fodder, and in a way that is not made manifest by the method of separation employed in these analyses. The chemical processes that go on in the digestive apparatus of animals are exceedingly complex, and it is admitted that physiologists know very imperfectly the changes that carbohydrates and woody fibre undergo in the digestive tract of herbivorous animals, so that we are not in possession of methods of analysis to apply to fodders that can approximately imitate the act of digestion so as to enable us to draw fine distinctions regarding the nutritive effects of fodders that are very nearly allied to each other in chemical composition. The method employed in the above analyses is sufficient to enable us to determine the relative value of fodders when there is a marked difference in their feeding properties, but it is probable that the differences between these three samples of grass are not sufficiently marked to enable us by the method of analysis employed to estimate their relative values. Nevertheless, the information supplied by these analyses may not be so deficient as at first sight appears.

We must keep in view that these are analyses of hay made from grass that was fenced in and permitted to grow to some length. It does not follow that fodder so grown will have the same composition or the same nutritive effect as grass which is constantly being cropped by grazing animals. The parts of the grass plants that are browsed by stock are not quite the same as those which make up the bulk of the hay. When grass is being constantly eaten the plants are mostly deprived of their flowering stem in its young state, and they spend the rest of the season in producing leaves, and these leaves have a very different feeding value from the stems and flowers which usually bulk so largely in hay. The grass at Carbeth was cut before flowering, and therefore approximated more closely to pasture-grass than it would have done had it been allowed to mature.

Seeing that the analyses of the hay did not convey the required information, it seemed probable that the analyses of the soils might afford a truer index of the value of the pasture grown on them. The soils and subsoils were carefully sampled, and on Table II. are the results of their analyses. The following was the method used: 100-gramme portions of the finely ground samples were dissolved in boiling strong nitric acid for half an hour. The liquid when cold was separated from the soil and made up to 500 cc., and this solution was used for determining the various ingredients in the usual manner.

By this method the whole of the nutritive ingredients in the soil are dissolved. It may be objected to this method that plants cannot utilise the whole of the substances so dissolved, and that it is only that portion which is "available" or immediately assimilable by the roots of plants that determines fertility. Many attempts have been made to find a solvent that would imitate the solvent action of roots. Dilute mineral acids, weak acids such as carbonic acid and 2 per cent. solution of citric acid, have been used. The most recent is a 1 per cent. solution of citric acid, whose solvent action on phosphates was shown by Stutzer to correspond with their manurial efficacy. Mr Bernard Dyer recently adopted this solution, as it seemed to have some resemblance in its action to the solvent power of the root, and used it for dissolving the soils of some of the Rothamsted fields whose fertility was known. Upon

the whole, he was led to the conclusion that a 1 per cent. solution of citric acid which dissolved only part of the phosphates in the soil, gave a better indication of the relative fertility of soils—at least as regards their phosphates—than a solution made with strong acids which dissolved the whole of the phosphates.

I applied Mr. Dyer's method to these soils, and the results are given in the following analysis, along with the total phosphoric acid :—

TABLE II.—SOILS AND SUBSOILS FROM CARBETH PASTURES.

	1.		2.		3.	
	Soil, 1-9 in.	Subsoil, 9-18 in.	Soil, 1-12 in.	Subsoil, 12-20 in.	Soil, 1-12 in.	Subsoil, 12-20 in.
Moisture - -	3·31	3·51	8·30	2·57	2·26	·89
Organic matter -	6·87	3·94	8·04	3·57	5·43	1·74
Containing nitrogen {	·23	·06	·22	·08	·19	·03
" nitric acid {	·005	·002	·008	·005	·006	·008
Phosphoric acid -	·17	·09	·10	·06	·14	·07
Potash - - -	·07	·17	·07	·11	·06	·13
Lime - - -	·38	·24	·51	·19	·28	·17
Magnesia - -	·23	·24	·66	·64	·43	·37
Oxide of iron and alumina	4·15	6·14	3·97	5·04	3·19	2·08
Stones - - -	17·24	3·78	3·07	2·27	13·06	10·62
Phosphoric acid soluble in 1 per cent. solution of citric acid.	·041	—	·024	—	·027	—

The constituents in a soil which are of most importance in determining its fertility are nitrogen, phosphoric acid, potash, and lime, and judging by the amount of these substances contained in the three soils, there need be no hesitation in selecting No. 1 as the most fertile, but whether No. 2 or No. 3 comes next is not so clear. The soil of No. 1 field is not so deep as the others, and ought not to contain so great a store of plant food, but its richness in phosphoric acid and also of nitrogen and potash are all in its favour. It is a characteristic of these soils that the subsoil is much richer in potash than the soil itself, and although the soils are deficient in potash, the soil and subsoil taken together have as great a store of potash as is found in ordinary fertile soils. I am informed that the application of potash manures has no appreciable effect on these pastures, but that is probably due to their deficiency in lime. Potash manures exert very little influence on soils deficient in lime. The proportion of lime in these soils is only about half what is found in ordinary fertile soils, and that is a defect that exerts its influence not so much in a restriction of the available store of lime, as such, required for the nourishment of the grass, as in the suppression of these processes in the soil by which lime is indirectly effective in enabling the grass to utilise more perfectly the stores of nitrogen and potash contained therein.

There is another constituent which has a very important part to play in rendering soils fertile, and that is the organic matter. It is a very complex substance, and it is probable that the analysis of it may be of considerable value in determining the relative value of soils. We have here to do only with its amount; and it will be noticed that not only in the Carbeth soils, but in those which follow, fertility and richness in

organic matter are very closely related to each other. In soils otherwise very similar, the one that has most organic matter up to a certain measure—that is to say, about 15 per cent.—is the more fertile soil. A soil may have excess of organic matter, and be the worse for that; but if it does not exceed from 15 to 20 per cent. its value is difficult to over-estimate, and its proximate composition deserves closer study than it has yet received from agricultural chemists. It will be noticed that the fertility of these soils runs pretty parallel with their respective richness in organic matter. The phosphoric acid got from the 1 per cent. citric acid solution is pretty uniformly about one-fourth of the total phosphoric acid.

As none of the Carbeth fields were high-class feeding pastures, samples from the policies of Dunmore were obtained of what are considered the best old pastures in Stirlingshire—viz., Nos. 4 and 5. No. 4 is the richer of the two, and is taken from a field reclaimed from the Forth, and therefore under sea-level. The soil is rich alluvium, and locally known under the name of “slike.” It is reckoned that 1 acre and 30 poles of that pasture will feed and finish a bullock of 13½ cwt. live-weight before the end of the season. The land has been about 50 years in pasture, and has never been known to fail in feeding quality. No. 5 is from a field 20 feet above sea-level, a carse clay, which has been 20 years in pasture. It is reckoned that 1 acre 1½ rods of that pasture are required to feed and finish a bullock weighing 12½ cwt. The analyses of the two samples, cut at the same time, and also of the soil and subsoil of the fields they were cut from, were as in Tables III. and IV.

In this case, as in that of the grass and soils from Carbeth, the differences which we are endeavouring to discover by means of analysis are not very marked, nevertheless it is easily seen that, both as regards the grasses themselves and the soils on which they were grown, there are decided differences in favour of the fatter pasture. The crude protein in No. 4 is greater than that in No. 5, and the amount of true albumen is correspondingly great. There is also a greater amount of fatty matter in No. 4, while the carbohydrates and woody fibre are practically the same in both.

TABLE III.—PASTURES FROM DUNMORE POLICIES.

	4.	5.
Crude protein (N × 6·25)	13·31	12·60
Containing albumen	12·25	11·60
„ amides, &c.	1·06	1·00
Ether extract	4·57	3·95
Solids soluble in 1½ per cent. sulphuric acid	50·00	52·00
Containing carbohydrates	37·63	40·84
crude protein	5·87	4·16
ash	6·50	7·00
Solids insoluble in 1½ per cent. sulphuric acid, but soluble in 1½ per cent. caustic potash.	28·70	26·80
Containing carbohydrates	18·56	16·46
crude protein	7·44	7·44
ash	2·70	2·90
Woody fibre	20·10	19·90
Residual ash	1·20	1·30
Total ash	10·40	11·20
Moisture	12·80	12·00

TABLE IV.—DUNMORE SOILS AND SUBSOILS.

	4.		5.	
	Soil, 9 in.	Subsoil, 9-18 in.	Soil, 9 in.	Subsoil, 9-18 in.
Moisture - - - - -	5.40	5.00	4.72	4.60
Organic matter - - - - -	12.95	7.77	10.60	5.58
Containing nitrogen - - - - -	.40	.23	.32	.14
" nitric acid - - - - -	.007	.007	.007	.005
Phosphoric acid - - - - -	.20	.22	.14	.11
Potash - - - - -	.18	.32	.16	.26
Lime - - - - -	.68	.62	1.03	.78
Magnesia - - - - -	.95	1.19	.84	.88
Oxide of iron and alumina - - - - -	7.13	8.62	4.66	6.84
Stones - - - - -	4.41	.17	1.73	—
Phosphoric acid soluble in 1 per cent. citric acid.	.050	—	.030	—

As regards the soils and sub-soils, No. 4 has the advantage of No. 5 in the three most important ingredients of plant food,—nitrogen, phosphoric acid, and potash—and also in organic matter. It will be noticed that the nitrogen present in these as in the former soils, in the state of nitric acid, is very small and does not differ very much. That is a transient constituent of the soil, and varies a good deal according to a variety of circumstances. The lime in No. 4 is less than that in No. 5, while the magnesia is greater—and that is an indication that the lime in No. 4 has been longer drawn upon than in No. 5. The quantity of lime in ordinary soils exceeds the magnesia very considerably, and when the quantity of these two substances approximate to each other, and especially if, as in the case of No. 4, the magnesia preponderates, it is an indication that the land would be benefited by liming despite the fact that it contains as much lime as is usually found in fertile soils. The citric acid solution contains, again, about one-fourth of the total phosphoric acid in each case.

The next three samples of grass were obtained from Careston. No. 6 is a sample of fine old grass from the Deer Park, which has been in pasture for upwards of a century. Very few of the grasses in this field ever flower. As is the case with very old pastures that are well grazed, the grasses through constant cropping have lost the habit of flowering. The Drum Park, No. 7, is also a very old pasture, and though it grows plenty of grass, it is nothing like so rich a feeding subject as the old Deer Park. Craigie's Muir, No. 8, is much younger, and though it grows a

large amount of rough grass it is considered a poor pasture (Tables V. and VI.).

The differences in these three samples of grass are very pronounced, and in such a case chemical analysis is quite a reliable guide to their relative feeding properties. It is chiefly in the proportions of albumen that they differ, and that is evidently the constituent of chief importance in determining the richness of a pasture.

It is remarkable how in these grasses, as in the former sets, the percentage of crude protein insoluble in dilute sulphuric acid, but soluble in dilute caustic potash, in all the samples is just about the same. The very small amount of woody fibre in the grass of the Deer Park is due to the fact that it consists almost entirely of the leafy part of the plant, while in the other two there are numerous flowering stems.

The analysis of the soils corroborates the evidence given by that of the grasses. The nitrogen, phosphoric acid, and potash, both in the soils and subsoils, are abundant in proportion as the pasture is richer as a fodder. In these pastures there is seen again the peculiarity observed in many old pastures that have not been limed, viz., that magnesia is more abundant in the soils and subsoils than lime. The animals that have been pasturing there for ages have taken the lime of the grass for the making of their bones, and have retained comparatively little of the magnesia. That constituent has been returned to the soil in their dung and urine, so that the soil which was once much richer in lime than in magnesia now contains a disproportionately large amount of the latter, and there is a clear indication that the application of lime would be very beneficial to all these pastures. The want of lime is their chief defect; and Nos. 7 and 8 are also deficient in potash,

TABLE V.—PASTURES FROM CARESTON.

	6. Deer Park.	7. Drum Park.	8. Craigie's Muir.
Crude protein ($N \times 6.25$)	20.02	12.00	9.08
Containing albumen	14.44	8.97	6.90
" amides, &c.	5.58	3.03	2.18
Ether extract	3.75	2.40	2.45
Solids soluble in $1\frac{1}{2}$ per cent. sulphuric acid	48.40	39.40	40.50
Containing carbohydrates	29.51	30.65	36.32
" crude protein	11.27	3.25	.53
" ash	7.62	5.50	3.85
Solids insoluble in $1\frac{1}{2}$ per cent. sulphuric acid, but soluble in $1\frac{1}{2}$ per cent. caustic potash.	31.35	33.55	32.30
Containing carbohydrates	19.10	22.79	21.10
" crude protein	8.75	8.75	8.70
" ash	3.50	2.10	2.50
Woody fibre	17.25	26.05	26.00
Residual ash	3.00	1.00	1.15
Total ash	14.12	8.60	7.50
Moisture	15.30	12.90	13.90

TABLE VI.—SOILS AND SUBSOILS FROM CARESTON PASTURES.

	6.		7.		8.	
	Deer Park.		Drum Park.		Craigie's Muir.	
	Soil, 1-6 in.	Subsoil, 6-12 in.	Soil, 1-6 in.	Subsoil, 6-12 in.	Soil, 1-6 in.	Subsoil, 6-12 in.
Moisture - - -	4·18	2·48	4·05	3·19	2·82	2·23
Organic matter - -	18·62	5·47	12·06	8·23	7·66	4·96
Containing nitrogen - {	·52	·21	·43	·30	·26	·12
nitric acid {	·020	·013	·011	·017	·018	·011
Phosphoric acid - -	·35	·26	·24	·18	·14	·12
Potash - - - - -	·16	·08	·09	·06	·09	·15
Lime - - - - -	·27	·20	·25	·17	·16	·38
Magnesia - - - -	·41	·26	·47	·21	·55	·16
Oxide of iron and alu- mina.	5·41	4·19	5·10	4·04	4·35	5·87
Stones - - - - -	1·63	14·54	11·98	30·73	10·39	5·24
Phosphoric acid soluble in 1 per cent. citric acid.	·077	—	·055	—	·044	—

While visiting the local experiments in Aberdeenshire I observed a field of fine old grass at Conglass, and I was informed that it was an exceptionally good feeding pasture. I was also informed that at Middleton of Balquhain, close by, there was believed to be very good land lying in grass, but not to be compared with the Conglass field for feeding quality. Samples of the grass and of the soil from both pastures were procured in 1892, and again last year. The following are the results of the analysis of the samples of both years:—

TABLE VII.—PASTURES FROM CONGLASS AND BALQUHAIN.

	9.		10.	
	Conglass.		Middleton of Balquhain	
	1892.	1893.	1892.	1893.
Crude protein (N × 6·25) - - -	19·03	12·90	6·30	7·87
Containing albumen - - - {	12·25	10·06	4·59	6·12
„ amides, &c. - - - {	6·78	2·85	1·71	1·75
Ether extract - - - - -	3·00	3·05	2·20	2·75
Solids soluble in 1½ per cent. sulphuric acid.	46·40	51·05	45·85	42·55
Containing carbohydrates - - - {	25·33	35·58	38·20	33·12
„ crude protein - - - {	10·72	5·47	2·80	3·93
„ ash - - - - - {	10·35	7·00	4·85	5·50
Solids insoluble in 1½ per cent. sulphuric acid, but soluble in 1½ per cent. caustic potash.	28·25	28·10	24·55	26·30
Containing carbohydrates - - - {	17·04	12·66	16·65	19·11
„ crude protein - - - {	8·31	7·44	3·50	3·94
„ ash - - - - - {	2·90	3·00	4·40	3·25
Woody fibre - - - - -	19·20	23·40	28·30	28·80
Residual ash - - - - -	6·15	2·00	1·30	2·00
Total ash - - - - -	19·40	12·00	10·55	10·75
Moisture - - - - -	17·40	12·76	14·10	12·55

TABLE VIII.—SOILS AND SUBSOILS FROM CONGLASS AND BALQUHAIN.

	9. Conglass.		10. Middleton of Balquhain.		
	Soil, 1-6 in.	Subsoil, 6-12 in.	Soil, 1-6 in.	Subsoil, 6-12 in.	Pan, be- low 18 in.
Moisture -	2.52	3.26	5.02	2.75	4.74
Organic matter -	5.49	7.48	10.46	4.30	10.15
Containing nitrogen -	.17	.28	.36	.19	.28
" nitric acid -	.009	.005	.009	.002	.006
Phosphoric acid -	.30	.28	.45	.30	.43
Potash -	.08	.09	.09	.09	.10
Lime -	.64	.40	.46	.43	.41
Magnesia -	.52	.53	.45	.28	.46
Oxide of iron and alumina -	7.03	7.01	9.02	7.59	8.86
Stones -	11.43	8.20	7.03	21.39	11.37
Phosphoric acid soluble in 1 per cent. citric acid.	.070	—	.092	—	—

The analysis of the grass leaves no doubt as to which pasture is the better. The grass at Conglass contains double the proportion of albumen and much less woody fibre. It was a strong leafy grass. The grass at Balquhain was fenced off, but it did not make much growth despite the protection afforded it. A peculiarity of this grass, which no doubt accounts for its inferior feeding quality to some extent, was the entire absence of clover. The farm of Middleton of Balquhain does not grow clover. It grows abundant crops of turnips and corn, but it is a peculiarity of the land that it lies upon a stiff pan, and the aeration and free drainage of the subsoil are thereby hindered. The want of ventilation, and the retention of products filtered down from the soil and subsoil, which are absorbed by the pan and remain there in an unoxidised state, have disadvantages which are peculiar, and until these are removed by the breaking up of the pan mere chemical analysis to determine the proportion of the elements of fertility will not give reliable information. Deep-rooting plants, such as clover, are at a disadvantage in such a soil, for as soon as they reach the sour unventilated pan they not only cease to grow, but they absorb unoxidised materials which act as a poison to the plant. I am informed that the turnips grown on this soil have to be fed to cattle in very moderate quantity, otherwise they purge excessively. It is evident that in this case we have to deal with a subtle constituent requiring special investigation.

It is seen from the analysis of the soil and subsoil that they are rich in the elements of fertility. The soil is richer than the subsoil, as we should naturally expect; but the extraordinary feature of this soil is that the pan at a depth of 18 inches is also richer in the elements of fertility than the subsoil immediately above it. There is a store of fertility lying in that pan, but it is not able to be utilised by the crops grown. Only such crops as are content with what nourishment is contained in the first 12 inches of soil can grow there.

If they reach the pan and grow into it they seem to find there some ingredient that either checks their growth or destroys them, and which

contributes to the plant some irritant substance that renders the fodder unsuitable for feeding. It seems probable that if the pan were thoroughly broken up and disintegrated by ventilation and free drainage, the soil of Middleton of Balquhain, and the grass grown on it, would be enormously improved, and we should then have the analysis of the grass and the soil affording a more accurate gauge of feeding quality and fertility. Here, again, nearly one-fourth of the phosphate is soluble in the citric acid solution, and the soluble phosphate simply corroborates the total phosphate. It is interesting to note the difference in the analysis of the grass grown in 1892 and 1893 at both places, seeing that the two seasons differed so much. The summer of 1892 was a dull cold season, while that of 1893 was hot and dry.

The effect of these two different conditions is seen in the actual and also the relative proportions of albumen and amides. At Conglass, during the dull cold summer, fully one-third of the crude protein consisted of amides, or other non-albuminoid substances of an immature kind. There was a want of sun to develop them into albumen. In 1893 less than one quarter of the crude protein consisted of these substances. The total per-centage of crude protein was less, but that is because of the greatly increased proportion of carbohydrates and woody fibre made during the sunny summer, viz., $51\frac{1}{2}$ per cent. carbohydrates as against $42\frac{3}{8}$ per cent., and 23·4 of woody fibre as against 19·2 per cent.

At Middleton of Balquhain the proportion of albumen to amides was also greater in the hot year, but the drought evidently told more severely on the grass of that farm, owing to the impenetrability of the pan, and there was not the same increase of carbohydrates as in the grass at Conglass.

The next samples, obtained last year, are five from Aberdeenshire. No. 11 is from a piece of fine old pasture at Mill of Fintray, near the bank of the Don, which has been depastured with sheep; No. 12 is from a fenced-in portion of the same soil; No. 13 is from the park in the policy of Dunecht, which grows a mass of sheep's fescue and fog; Nos. 14 and 15 were taken from a four-year-old pasture at Thaniston, Kintore, which is said to be somewhat inferior in feeding quality (Tables IX. and X.).

The grass from both Mill of Fintray and Thaniston is seen to be of very good quality, and it is instructive to notice the difference in the composition of the two samples taken at these places under different conditions.

The sample taken from the depastured portion of the field at Mill of Fintray has a high per-centage of crude protein, but only about two-thirds of it consists of albumen, while in the portion fenced off fully three-fourths of the protein is albumen. The explanation is that the depastured grass was not allowed to flower nor to grow to maturity; it was constantly being bitten over. It consisted of highly nitrogenous, leafy substance, whose amides, &c., had not had time to be converted into albumen. The fenced-off grass, on the other hand, was allowed to grow its flower-stalks and to mature its seed, so that the amides, &c., were for the most part converted into albumen; but the presence of a considerable proportion of stalks had the effect of increasing the proportion of woody fibre.

The greater per-centage of moisture in the air-dried grass from the depastured part of the field is also due to the greater tendency of the leaf to absorb and retain moisture.

TABLE IX.—PASTURES FROM MILL OF FINTRAY, DUNECHT, AND THANISTON.

	Mill of Fintray.		Dun- echt.	Thaniston.	
	11. Depas- tured with Sheep.	12. Fenced.	13. Neg- lected.	14. Fenced. 1st cut Sept.	15. June. 2nd cut Oct.
Crude protein ($N \times 6.25$) - -	17.28	13.12	8.31	17.06	14.66
Containing albumen - - {	11.37	10.06	6.12	11.81	11.81
" amides, &c. - - {	5.91	3.06	2.19	5.25	2.85
Ether extract - - -	3.35	2.90	3.75	2.65	3.50
Solids soluble in $1\frac{1}{4}$ per cent. sulphuric acid.	58.20	47.45	44.55	50.55	52.50
Containing crude protein - -	10.28	6.56	3.06	11.37	6.79
Solids insoluble in $1\frac{1}{4}$ per cent. sulphuric acid, but soluble in $1\frac{1}{4}$ per cent. caustic potash.	19.30	24.96	25.30	23.25	24.80
Containing crude protein - -	7.00	6.56	5.25	5.69	7.87
Woody fibre - - -	18.30	22.30	28.60	24.60	21.80
Total ash - - -	12.10	14.45	7.70	11.25	9.95
Moisture of air-dried grass - -	16.95	13.78	13.33	14.63	14.46
Moisture in fresh grass (Milne) -	—	—	63.14	75.78	77.49

TABLE X.—SOILS FROM MILL OF FINTRAY, DUNECHT, AND THANISTON.

	Mill of Fintray.	Dunecht.	Thaniston.
	Soil.	Soil.	Soil.
Moisture - - -	3.25	2.26	3.11
Organic matter - - -	7.00	6.46	9.52
Containing nitrogen - - {	.25	.21	.33
" nitric acid - - {	.008	.003	.004
Phosphoric acid - - -	.28	.12	.23
Potash - - -	.19	.09	.13
Lime - - -	.51	.23	.23
Magnesia - - -	.99	.31	.32
Oxide of iron and alumina - -	7.7	2.58	4.81
Stones - - -	.05	13.24	9.7
Phosphoric acid soluble in 1 per cent. citric acid.	.046	.034	.060

The grass at Thaniston did not show by its analysis that it was of inferior feeding quality, and another sample of it was cut about six weeks later. The difference in the analysis of the two portions is similar

to that of the two samples from Mill of Fintray, and due also to the same cause—viz., the greater preponderance of leaf, or I should rather say the almost entire absence of flower-stalks in the sample that had been cut over. But it must be confessed that samples 14 and 15 do not convey the impression that the grass is of inferior quality. On the contrary, it has all the appearance of being very good feeding grass. I am therefore unable to accept the statement that it is a poor pasture. I rather think a hasty judgment has been passed upon it. It is only four years old, and therefore it has not had time to acquire a character either for poverty or richness, and during the second and third year it would probably be at its worst. Properly speaking, it should not have been included among those analyses, as it has not yet acquired the character of permanent pasture.

The pasture at Dunecht is of a very poor description. No attempt is being made at present to maintain the grass as a pasture, and it is rapidly falling back into a state of wilderness.

The soils of these pastures tell by their analyses the same story as the grasses. That of Mill of Fintray is a fine alluvial soil with scarcely a stone in it. Thaniston soil is rich in organic matter for so young a pasture, and had probably been well dunged before it was put down to grass. That of Dunecht is about 12 inches deep, resting on a stiff yellow clay. It is somewhat deficient in potash, lime, and phosphoric acid; but what it needs most, so as to grow good grass, is management. The proportion of phosphate soluble in 1 per cent. citric acid is one-sixth in the case of Mill of Fintray, and about one-fourth in the other two.

The only other pastures examined were two from Kildonan, viz., No. 16 and No. 17. They are both taken from the same field, and are samples of first year's grass which was cut from portions fenced off for the purpose. In former years it was noticed that that part of the field from which sample 16 was taken was the part of the field eaten barest by cows, while No. 17 was taken from the part of the field that was last to be eaten. There was no apparent difference in the quantity of grass and clover on the two fenced-off parts, and the fact that it was first year's grass, and rich in clover, accounts for the large amount of protein. The soil is not more than 7 inches deep, and it is not a particularly good pasture at any time. The grass was sown out with an oat crop after turnips, to which 10 cwt. bone-meal and 3 cwt. superphosphate had been applied, and which were half eaten on the ground by sheep. It would have been a better test if the grass had been some years old, but they were the only samples of grass got from that district.

They are not very different in most respects. The chief difference lies in the superiority of No. 16 in albumen, which we have seen is a very important item. The fatty matter (wax) and chlorophyll are also more abundant in that grass, and the woody fibre is comparatively low. The soil of No. 16 is also richer in nitrogen than the other, but the chief difference is the great abundance of stones in the soil of that field. That excess of stones means a corresponding reduction in the per-centage of all the other constituents of the soil, so that if the soils were riddled and only the fine soil taken, the elements of fertility in No. 16 would be considerably increased. It is a common error made in the analysis of soils to ignore the stones and describe the ingredients contained in the fine sample only.

II.—EXPERIMENTS AIDED BY BOARD OF AGRICULTURE. 79

TABLE XI.—GRASS FROM FIELD AT KILDONAN.

	16.	17.
Crude protein (N $\times$ 6.25)	18.59	15.09
Containing albumen	12.69	10.50
" amides, &c.	5.90	4.59
Ether extract	2.25	1.80
Solids soluble in $1\frac{1}{2}$ per cent. sulphuric acid	47.15	46.40
Containing protein	9.40	8.09
Solids insoluble in $1\frac{1}{2}$ per cent. sulphuric acid, but soluble in $1\frac{1}{4}$ per cent. caustic potash.	26.75	24.90
Containing protein	9.19	7.00
Woody fibre	23.40	25.60
Total ash	10.25	11.20
Moisture	15.55	15.15

TABLE XII.—SOILS FROM FIELD AT KILDONAN.

	16. Soil.	17. Soil.
Moisture	3.17	2.57
Organic matter	11.72	7.70
Containing nitrogen	.30	.25
" nitric acid	.004	.005
Phosphoric acid	.18	.20
Potash	.18	.16
Lime	.44	.49
Magnesia	.56	.72
Oxide of iron and alumina	5.10	5.04
Stones	19.72	8.35
Phosphoric acid soluble in 1 per cent. solution of citric acid	0.58	0.46

In all the preceding analyses the stones have been reckoned as a constituent of the soil, reducing by their presence the area of the soil capable of yielding nourishment to the pasture. Despite the prevalence of stones, the organic matter in No. 16 is far ahead of that in No. 17, and it is probable that when the grass is a few years old a very different kind of grass will be found growing on the more barely eaten portion. In this case, for the first time, there is seen the advantage which the citric acid solution has over the other as an indicator of the relative fertility. No. 17 has more total phosphoric acid than No. 16; but despite its greater quantity, it is less available as a nourisher of the grass. It would seem therefore that a 1 per cent. citric acid solution of a soil affords additional information as regards the phosphates of the soil in some cases, and is a useful aid to diagnosis.

The conclusions to be drawn from these investigations are that, except in cases where the difference in the feeding value of pastures is very slight, the chemical analysis of the grass by the methods here employed affords fairly reliable information, and that information is increased and made still more reliable by the analysis of the soil. Further, it is probable that if we could get what might be regarded as a fair sample of that portion of the grass which is really eaten by stock, any slight discrepancies such as have been noted might disappear. There is some additional information derivable from the separate estimation of the protein, and perhaps also of the ash contained in that portion of the grass that is soluble in a weak

solution of acid and that which is not; but it would require a larger induction than what is here afforded to draw any definite conclusion regarding that point. It is probable also that the separation of the carbohydrates into various classes may yet provide useful information in the way of gauging the feeding value of fodders; but so far as they go, it is evident that both the analysis of the grass itself and of the soil by our present methods are very useful guides in enabling us to form a fairly accurate estimate of the relative feeding value of pastures that are apparently equally productive of grass. It need hardly be said that the feeding value of a pasture per acre depends on the quantity as well as the quality of the grass it produces; and it is only in cases where the same quantity per acre of grass is grown that the analysis of the grass affords an indication of the feeding value of a pasture. The only two pastures whose relative feeding quality has been accurately gauged for this inquiry are Nos. 4 and 5, but even in that case the actual amount of grass produced on each pasture may differ considerably. The quality of the grass does not differ much from that grown at Carbeth, but there can be no doubt that the quantity is much greater. The analyses of the soils at Dunmore show that they contain a far larger store of plant food than those at Carbeth; and in the case of old-established pastures it is the amount of plant food in the soil rather than the kind and quality of the grass that affects their feeding value.

THINNING OF TURNIPS AS AFFECTING THE QUANTITY AND QUALITY OF THE CROP.

A small preliminary experiment carried out in 1892 pointed to the conclusion that when turnips were grown closely in the drills they were sweeter and better matured than those grown widely, and the results were altogether such as to make it desirable to test the matter on a larger scale. The question to be answered was, "By what method of thinning is it possible to grow the greatest weight and best quality of turnip food per acre?" The experiment was carried out at one station on two fields and by means of duplicate experiments; at another on a field of yellow turnips and on one of swedes; and at a third, on a larger scale on a field of yellow turnips.

Each plot consisted of three drills of length varying from 34 to 60 feet. The middle drill of each plot was selected for weighing, and the results of the weighing are summarised on Table I.

TABLE I.

No. of Plot.	No. of Plants.	Width.	Average Width per Plant.	Boon.		Lathers.		Lessendrum.	Average.
				Well-field. Yellows.	Crofts. Yellows.	Yellows.	Swedes.	Yellows.	
		in.	in.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
5	2	5	1½	25.7	27.1	18.3	25.7	23.6	25.1
9	4	9	2½	22.6	21.4	20.2	25.7	22.7	22.5
1	1	3	3	21.6	23.1	19.7	26.8	24.4	23.1
6	2	5	3	23.8	23.4	23.3	25.5	28.1	24.8
8	3	4	3	24.5	23.1	23.3	27.2	23.4	24.3
10	4	12	3	21.7	20.0	19.7	26.4	20.6	21.7
7	2	9	4½	23.0	20.8	24.9	34.9	26.2	24.0
2	1	6	6	20.3	20.6	20.5	25.2	23.6	22.0
3	1	9	9	18.9	18.6	22.6	27.7	23.5	22.3
4	1	12	12	18.7	18.4	24.8	27.1	26.6	23.1

There were in all 10 plots thinned as follows: one plant left every 3 inches, one every 6 inches, one every 9 inches, and one every 12 inches; also two plants every 3 inches, two every 6 inches, and two every 9 inches; also three plants every 9 inches; and, lastly, four plants every 9 inches and every 12 inches. The plants are arranged on Table I. according to the average width per plant, beginning with the closest planting—viz., $1\frac{1}{2}$ inches—and ending with the widest—viz., 12 inches. It was expected that very considerable differences in the weight per acre of bulbs grown would be observed in passing from the closely to the widely thinned plants, but it will be seen from the table that there is no very great difference.

The answer to the first part of the inquiry is given in that table, at least so far as the circumstances affecting the crop of 1893 are concerned. One is tempted to conclude from these results that it is a matter of indifference at what distance turnip plants are grown between 3 and 12 inches, so far as the bulk of the crop is concerned. There would seem to be a certain amount of fertility or strength in the land for the growth of turnips, and the rooting power of the crop would seem to be much about the same whether composed of many small turnips or comparatively few large ones. Upon the whole the advantage seems to lie with the more closely planted plots, but it is evident from the somewhat erratic character of the results obtained in different fields that it would be unsafe to make an absolute statement of that kind.

If we limit our attention to the results obtained on the two fields at Boon, we might consider that a sound inference, for they corroborate each other very well, and the results are also in conformity with those obtained on the same farm during the former season. I had the opportunity of inspecting the crops and was present at the weighing. The crops as they stood on the ground formed a most interesting picture. They had been thinned in a manner which left nothing to be desired, and the single bulbs, the pairs, the triplets, and the clumps of four each occupied their places with wonderful regularity and uniformity, so that reliance may be placed on the accuracy of the results. I cannot but believe that so far as Boon farm is concerned, and the climatic conditions under which the crops were grown, we have in these figures the proof that close planting is more favourable to the production of a heavy crop than wide planting. The closest planted of all—viz., that in which two plants were left every 3 inches—has yielded by far the heaviest crop. The bulbs resembled good-sized apples, and were not such as would be likely to please the eye of a farmer. Many of them, of course, were very small; and although when freshly pulled they were good juicy bulbs, they shrivelled up a good deal on keeping, and it became evident that at the end of the winter they would not weigh more than the crops of plots 1, 6, 8, and 10, that had twice as much room to grow in. If we compare these four plots, we see that two plants left every 6 inches and three plants left every 9 inches are better than a single plant every 3 inches or a clump of four every 12 inches. When two plants are left every 6 inches the bulbs attain a fairly good size; and although they have only an average extent of 3 inches in a straight line of the drill allotted to them, they grow in a zigzag manner along the drill, overlapping each other and attaining a diameter of 4 or 5 inches. Clumps of four plants do not make so regular a crop. They are evidently hampered and one of the four is not unfrequently crushed out. Boon farm lies high, and these turnips were grown at an elevation of 900 feet above sea-level. At such an altitude it is probable that when two

plants are left together, and pretty closely planted, they afford each other mutual protection; and it may be to that circumstance that is due the superiority of the closely-planted plots over plots 3 and 4, where single plants were left at 9 and 12 inches respectively. As regards plot 4, it is of importance to record that though the bulbs grown on it were the largest and what would be regarded as most respectable in appearance, they stood the winter worse than the others. A section of the experimental plots was left out in the drills over the winter, and a very large proportion of the turnips on plot 4 rotted away.

As regards the crop of yellows at Mains of Laithers, which enjoys a mild climate and is not far above sea-level, it stands in marked contrast to that at Boon. The closest planted plots gave the lowest return, while the widest planted gave nearly the highest. On the whole, however, the evenest crop was grown on plots 6 and 8, as was the case at Boon.

The crop of swedes at Mains of Laithers was a very even crop over all the plots, and though the widest planted were the heaviest, they were practically on a par with plot 8, where three plants were left every 9 inches.

At Lessendrum, where the test was made on a larger scale than at the other places, the amount of crop grown was fairly uniform; but upon the whole the advantage lay with the more closely singled plots, if we except plot 10, where the plants were left in clumps of four planted 12 inches apart.

Gathering up the whole results at these farms, plots 5, 6, and 8 take the lead, and of these the latter two have given upon the whole the most uniform result; but, as already remarked, the differences are not so great nor the uniformity so marked as to entitle us to draw a definite conclusion as to which is the width of planting that gives the heaviest crop.

There is one circumstance that deserves to be recorded in this place. There was an almost universal prevalence of mildew on the turnips in the north last season. It passed off without doing any permanent damage, but it was observed that where the turnips were planted closest the mildew was worst, and where they were widely planted there was almost no mildew. It would seem that a want of ventilation favoured mildew. It may seem absurd to speak of a want of ventilation in an open turnip-field, but I am quite convinced that the greater size of turnips that are standing apart is due not only to the greater amount of feeding-ground they enjoy, but also to their free ventilation; and all down an exposed drill on the windward side of a plot turnips grow better than in an exposed drill on the leeward. It is related that in 1852 the turnips on a certain farm were severely attacked by mildew, so that the entire crop of a field lost their leaves, with the exception of one drill in the middle of the field where the neighbouring drill had been missed in sowing.

To test the quality of the turnips thinned at different distances samples of twelve turnips from each plot were sent by the experimenters, and as I was anxious to give this part of the investigation a thorough trial I analysed in all 60 sets of turnips. The results are given in Tables II. to V.

The analyses made of the turnips grown under the conditions of this experiment in the former year led to the expectation that as regards

the amount of solid matter—the relative proportions of albumen and amides, and the proportion of ready-made sugar—there would be noticed certain well-defined differences, according as the plants were closely or widely thinned.

It may be said, in a word, that these expectations have not been realised. That there are differences of the kind expected is true enough, but they are altogether so slight as not to be of any practical importance. The small closely-grown turnips were just as sappy as the big widely-grown ones, and the considerable differences noticed in some cases are due to what may be called accident, so far as this experiment is concerned—the accident of seed or of growth. Two turnips grown side by side on the same plot may vary in composition as much as any two from different plots do; and although these analyses were in most cases made from a dozen bulbs selected as fairly representing the growth in each plot, that number was not large enough to provide a completely representative analysis of the plot, and it would be very unsafe to trust to the analytical results so far as to multiply them into the quantities per acre of the different ingredients grown under conditions of close and wide thinning.

TABLE II.—ANALYSIS OF YELLOW TURNIPS GROWN AT BOON, LAUDER.

No. of Plot	5	9	1	6	8	10	7	2	3	4
Average width of Plants	1½ in.	2¼ in.	3 in.	3 in.	3 in.	3 in.	4½ in.	6 in.	9 in.	12 in.
Water	88.71	86.94	88.79	89.10	88.27	87.78	87.94	87.09	88.70	88.66
Solids*	11.29	13.06	11.21	10.90	11.73	12.22	12.66	12.91	11.30	11.34
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Albumen	5.91	4.16	6.12	5.25	4.81	4.16	5.69	5.03	4.16	5.25
Amides, &c.	1.75	2.40	3.50	2.19	2.19	3.50	1.31	3.28	4.15	1.97
Carbohydrates, &c.	77.14	79.89	73.88	77.61	78.05	78.34	78.95	76.94	76.44	78.03
Woody fibre	8.95	8.00	8.90	8.75	8.90	7.90	8.40	8.25	8.95	8.25
Ash	6.25	5.55	7.60	6.20	6.05	6.10	5.65	6.50	6.30	6.50
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
*Containing sugar	5.5	5.9	5.0	5.8	5.3	6.4	3.9	5.1	5.3	5.00

TABLE III.—ANALYSIS OF YELLOW TURNIPS GROWN AT MAINS OF LAITHERS.

No. of Plot	-	-	-	5	9	1	6	8	10	7	2	3	4
Average width of Plants	-	-	-	1½ in.	2¼ in.	3 in.	3 in.	3 in.	3 in.	4½ in.	6 in.	9 in.	12 in.
Water	-	-	-	91.10	91.97	91.58	92.36	92.11	92.01	92.69	92.86	91.91	91.27
Solids*	-	-	-	8.90	8.03	8.42	7.64	7.89	7.99	7.31	7.14	8.09	8.73
				100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Albumen	-	-	-	10.06	7.00	8.31	7.22	7.87	7.87	9.19	11.59	9.41	7.22
Amides, &c.	-	-	-	1.31	3.94	1.75	2.62	3.50	3.50	2.18	1.53	3.71	2.84
Carbohydrates, &c.	-	-	-	62.73	67.16	68.84	70.46	68.83	68.86	64.13	61.38	65.43	69.09
Woody fibre	-	-	-	15.65	12.70	12.40	11.50	10.95	11.37	15.35	15.00	12.00	12.25
Ash	-	-	-	10.25	9.20	8.70	8.20	8.80	8.40	9.15	10.50	9.43	8.60
				100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
*Containing sugar	-	-	-	6.2	4.6	5.1	5.0	5.1	5.7	5.5	4.9	5.1	5.2

TABLE IV.—ANALYSIS OF SWEDES GROWN AT MAINS OF LAITHERS.

No. of Plot	5	9	1	6	8	10	7	2	3	4
Average width of Plants	1½ in.	2½ in.	3 in.	3 in.	3 in.	3 in.	4½ in.	6 in.	9 in.	12 in.
Water	90.34	90.17	90.74	90.29	90.76	89.75	91.30	91.18	91.23	90.75
Solids*	9.66	9.83	9.26	9.71	9.24	10.25	8.70	8.82	8.77	9.25
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Albumen	9.41	9.19	8.97	8.97	10.72	8.75	9.84	9.62	9.84	8.53
Amides, &c.	2.40	3.28	2.84	2.19	2.84	3.50	2.41	3.29	3.07	2.63
Carbohydrates, &c.	59.24	63.73	65.64	69.39	59.99	70.00	57.90	64.04	65.04	69.99
Woody fibre	22.50	16.65	16.00	12.75	19.15	11.60	22.75	15.75	15.25	12.60
Ash	6.45	7.15	6.55	6.70	7.30	6.15	7.10	7.30	6.80	6.35
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
*Containing sugar	—	7.0	6.5	6.6	7.0	7.0	6.9	6.4	6.6	6.8

TABLE V.—ANALYSIS OF YELLOW TURNIPS GROWN AT LESSENDRUM.

No. of Plot	5 1½ in.	9 2½ in.	1 3 in.	6 3 in.	8 3 in.	10 3 in.	7 4½ in.	2 6 in.	3 9 in.	4 12 in.
Average width of Plants	-	-	-	-	-	-	-	-	-	-
Water	92.04	92.85	92.76	92.69	91.46	92.00	93.20	90.24	93.24	92.84
Solids*	7.96	7.15	7.24	7.31	8.54	8.00	6.80	9.76	6.76	7.66
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Albumen	8.31	8.53	7.87	8.31	8.09	7.66	10.94	6.12	10.28	9.84
Amides, &c.	2.85	1.97	3.50	5.03	3.50	1.96	4.37	2.63	2.63	2.41
Carbohydrates, &c.	63.99	63.35	63.28	62.81	66.41	67.03	57.44	70.50	59.09	62.35
Woody fibre	14.75	17.95	15.15	12.30	12.50	14.55	15.40	11.80	16.80	15.70
Ash	10.10	9.20	10.20	11.55	9.50	8.80	11.85	8.95	11.20	9.70
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
*Containing sugar	5.0	5.9	5.0	4.5	5.3	5.1	4.4	5.6	5.4	5.1

The fine warm sunny summer of 1893 enabled both large and small turnips to ripen completely, and convert the great mass of their carbohydrates into sugar. Sugar-beets grown on a number of farms in Lauderdale produced as large a per-centage of sugar as is found in the crops of sugar-beet grown on the Continent.

If we could but have a continuance of summers such as 1893, sugar-growing would become a profitable industry in this country. But it is during dull backward seasons that the differences between closely and widely planted turnips are apparent, where the conditions for ripening are in favour of the smaller bulbs. During last summer it did not seem to matter how closely or how widely turnips were thinned, the results, as regards both quantity and quality, being very little affected thereby.

TABLE VI.

Meikle Endovie, Alford.								Westside, Kildrummy.	
			Yellows.			Swedes.		Yellows.	
No. of Plot.	No. of Plants.	Width of Plants.	No. of Bulbs per Plot.	Weight per Acre, Dec.	Weight per Acre, April.	No. of Bulbs per Plot.	Weight per Acre.	No. of Bulbs per Plot.	Weight per Acre, Dec.
		In.		Tons.	Tons.		Tons.		Tons.
5	2	3	210	20.2	16.5	270	16.5	213	26.7
9	4	9	220	20.7	15.4	220	15.8	186	21.6
1	1	3	176	20.2	12.1	163	20.8	160	26.4
6	2	6	169	20.7	17.0	165	15.0	162	24.7
8	3	9	170	21.4	17.1	162	17.8	167	26.6
10	4	12	173	20.7	19.0	175	17.5	160	23.5
7	2	9	126	20.8	15.5	113	13.5	120	28.9
2	1	6	96	21.0	17.1	90	18.4	92	23.5
3	1	9	67	20.0	15.2	59	16.5	61	20.1
4	1	12	52	21.8	16.2	52	18.6	48	21.2

On Table VI. are given the results of the thinning experiments made on two other farms, which quite corroborate the general results obtained elsewhere. At Meikle Endovie the half of each plot of yellow turnips remained unprotected in the drills during winter, with the result that a considerable shrinkage took place. It is explained, however, that although the bulbs remained healthy, they suffered somewhat from the attentions of crows and wood-pigeons. The sugar in these turnips was estimated, showing the same high per-centage that was found in all the other instances; but like them, showing no difference in the per-centage found in the closely thinned from that in the widely thinned plots. The swedes show a greater per-centage of sugar than the yellows; and yellows grown at a high elevation, as at Kildrummy, are not so rich in sugar as those grown lower down. They were as follows:—

TABLE VII.—PER-CENTAGE OF SUGAR.

No. of Plot.	Meikle Endovie.		Kildrummy.
	Yellows.	Swedes.	Yellows.
5	5.1	7.2	5.2
9	5.6	7.2	4.3
1	5.3	7.5	5.1
6	5.8	7.5	4.9
8	5.9	6.5	5.1
10	5.9	7.6	4.4
7	5.8	7.5	4.4
2	5.6	7.1	4.8
3	5.8	7.6	5.2
4	4.8	7.5	5.0

THE ECONOMICAL MANURING OF THE TURNIP CROP.
(Being the Result of Field Experiments in Banffshire in 1893.)

EXPERIMENT VIII. C.

A representation having been made by a number of the leading farmers in Banffshire to have an experiment tried in the county which would yield useful information in regard to the manuring of the turnip crop, the following experiment (VIII. C.) was selected by them, and carried out in the four representative agricultural districts of the county—viz., the central district; the Spey, Avon, and Fiddichside district; the Boyndie or Portsoy and Cullen district; and the Enzie district. The object of the experiment is to find the most efficient and least expensive turnip manure, and it resolves itself into three distinct questions, viz :—

1. What are the relative merits of three forms of phosphate—viz., fine bone-meal, superphosphate, and slag, when applied along with nitrate of soda?
2. What proportion should the nitrate bear to the phosphate?
3. Has sulphate of ammonia any advantage over nitrate of soda?

The size of plot which experience has shown to be most appropriate for such an experiment is the fortieth of an acre, and nine plots sufficed for the purpose, manured as follows :—

Plot.	Quantities of Manure.	Per Plot.	Per Acre.	Cost per Acre.
		lb. oz.	Cwt.	s. d.
1.	Fine bone-meal	11 3	4	} =26 0
	Nitrate of soda	0 11	$\frac{1}{8}$	
2.	Superphosphate	16 12	6	} =26 0
	Nitrate of soda	2 13	1	
3.	Thomas-slag	25 0	9	} =26 0
	Nitrate of soda	2 13	1	
4.	Mixed superphosphate and slag	21 0	$7\frac{1}{2}$	} =26 0
	Nitrate of soda	2 13	1	
5.	Mixed superphosphate and slag	21 0	$7\frac{1}{2}$	} =35 0
	Nitrate of soda	5 10	2	
6.	Fine bone-meal	11 3	4	} =26 0
	Sulphate of ammonia	0 9	$\frac{1}{8}$	
7.	Superphosphate	16 12	6	} =26 0
	Sulphate of ammonia	2 4	$\frac{3}{8}$	
8.	Mixed superphosphate and slag	21 0	$7\frac{1}{2}$	} =17 0
9.	Nothing.	—	—	

The value of experiments of this kind depends on the care that is taken to have every detail carefully carried out and checked in such a manner as to reduce to a minimum the risk of error in selecting the ground, measuring it, applying the manures, weighing the crops, and noting the results. Every care was taken to achieve success in these particulars. Every experimenter was supplied with a printed schedule giving instructions regarding all details, and for tabulating the results. Each district in which an experiment was carried out was superintended by a secretary, and the local experimenters mutually assisted in witnessing and checking each others results.

It is the first time that such an experiment has been undertaken in Banffshire, and I am able to state, from personal investigation and inspection on the spot, that the work was done in a most careful and accurate manner, so that the results obtained are as reliable as the results of field experiments can be. There are a few failures to record, due to causes which were beyond the control of the investigators; but the number of successes is so great as to command perfect confidence. There were in all 40 successfully completed tests, and these are noted in the tables at the end of this paper. They are of individual interest to the experimenters themselves, and to those farming in the districts; but as the average results are alone of interest to the general reader, I will give them first, and summarise the lessons that these experiments have taught us (*see* Tables I.-V).

From this summary are excluded a certain number that are recorded in the district tables, but which, owing to attack of insects, prevalence of disease, or other inevitable causes, have had their accuracy impaired to some extent.

Before drawing any conclusions from these results it is necessary to consider the circumstances in which the crop was grown.

In 1893 there was a perfect seed-time for the turnip crop in Banffshire; but from the time the seed was put in till nearly two months thereafter there was continuous drought, and although the weather was genial, the absence of moisture greatly retarded the growth of the crop in its youth. When the weather broke an unusually wet autumn followed. These conditions are not favourable to the action of light manures, and hence the crop is only a moderate one—about 20 tons per acre. It must also be remembered that in most cases the experiment was tried in the worst fields of the farms—frequently on land that had borne two white crops in succession, or that was otherwise run out, and regarding whose future treatment some information was wanted.

The differences between the various plots are not so striking as one is accustomed to notice in many records of manurial experiments, but in this case none were expected. The manures, except in the case of plots 5 and 8, are put on at the same cost per acre, and are regarded as sufficient to raise a full crop.

Taking all these circumstances into account, the slight differences which do exist acquire enhanced significance, and we are able to deduce from the results the following conclusions.

Bone-meal is the slowest of the phosphates used, superphosphate is the most active, and is better than slag when applied at an equal cost per acre; but a mixture of superphosphate and slag has done better than either separately.

There is no advantage whatever in increasing the quantity of nitrate of soda over 1 cwt. per acre. The extra cwt. of nitrate of soda applied

to plot 5 at the cost of 10s. per acre has simply been thrown away. Perhaps it would be more correct to say it has been washed away.

The constantly debated question as to whether nitrate of soda or sulphate of ammonia is the more appropriate soluble nitrogenous manure for turnips has received an answer here, but the answer is one which must be read in the light of the circumstances of the season. In Banffshire last season sulphate of ammonia has done better than nitrate of soda when applied in equivalent quantities. To prove that, we have only to compare plots 1 and 2 with the corresponding plots 6 and 7. It might have been the other way about if the character of the season had been different. It is evident that the extreme drought prevented both these manures from coming into operation for a long time, and that when drought gave place to floods the more soluble nitrate was considerably washed out of the soil, and prevented from aiding the growth during the late part of the season. This experience should lead one to the conclusion that the best kind of soluble nitrogenous manure is neither sulphate of ammonia nor nitrate of soda, but a mixture of the two—the nitrate to act immediately, and the sulphate to come into operation later, and with less risk of loss. The constituent that has done most for the crop, despite the drought, is phosphoric acid, and in its case also we are led to the conclusion that a mixture of superphosphate and slag is better than either separately—the superphosphate for more immediate, and the slag for less immediate use. The quantity of phosphatic mixture was very considerable, viz., $7\frac{1}{2}$ cwt., costing about 16s.; but it raised the crop from 11 tons 7 cwt. to 19 tons 10 cwt. It is probable that a less quantity would have been more economical. When, in addition to the phosphate, 1 cwt. per acre of nitrate of soda or an equivalent amount of sulphate of ammonia was applied at a cost of about 10s. per acre, there was a further increase of about $2\frac{1}{2}$ tons; and if we reckon a ton of turnips as worth not much more than 5s. in many cases the nitrate has done little more than repaid its cost. That the double dose of nitrate should have produced less than the single dose is not very remarkable. An overdose of nitrate frequently does more harm than good, and in this case it injured the crop on many of the farms, as it was frequently reported that there were far more diseased roots on plot 5 than on any other.

In the Central, Speyside, and Enzie districts the manures were applied also to land that had been dunged, and a comparison of the crops grown with and without dung conveys some important lessons.

A year of drought is one in which farmyard manure should be superior to every other, and it is seldom that a season will occur more favourable to the dung in comparison with light manures than 1893. Nevertheless, we see that dung alone on plot 9 has not done better than artificials on plots 4 and 7. From 15 to 30 loads of dung were applied, and the average would be about 20 loads per acre. The value of a load of dung would not be reckoned at less than 4s.; so that the cost of the dung, apart from the expense of cartage and spreading, would be about 4l. per acre. We thus see that, so far as the turnip crop is concerned, the application of 4l. worth of dung has not raised more turnips than 26s. worth of phosphates and nitrogen, and, as plot 8 informs us, only $1\frac{1}{4}$ ton more than a mixture of superphosphate and slag at a cost of 16s. per acre.

Of course it will be said that the dung is intended to last for a rotation, and the barley and grass will get the benefit of what the

turnips have left. That is quite true, but it is only half a truth; the succeeding crops will get the benefit of only a certain amount of what the turnips have left. What fraction of the residue that will be depends on the power of the soil to retain the soluble constituents of dung, and whether the winter is wet or dry. It need not be doubted that there will be a great deal of loss; and it is quite evident that dung is a costly manure for turnips, and still more costly for cereals and grass if applied only to the turnip-break. In making that statement I trust I shall not be regarded as undervaluing the importance of farmyard manure. I am well aware that it is the most valuable and important of all manures. Its value as a manure is not limited to supplying merely the manurial ingredients—phosphoric acid, nitrogenous matter, and potash which are contained in the fertilisers with which we are comparing it. It has other very important functions to perform in contributing to the fertility of the soil—functions which the fertilisers we are considering cannot accomplish. It not only improves the texture of the soil in a way that these light manures cannot, but it gives life to the soil, and is, as it were, the leaven of the land, and in the application of it we have to consider how we can best conserve it and maintain its vitality. A season more favourable to dung and less favourable to light manures than 1893 may not occur in a generation, and yet it is evident that we are not using farmyard manure to the best advantage. The returns made by the experimenters showed also that it was not the heaviest dunged land that showed dung to greatest advantage. A careful study of the returns impresses me with the belief that the majority of turnip crops are far more heavily dunged than they need be, and that there is much loss from over-dunging. The turnip-break is a convenient place to put dung on, and dung is a very useful manure for the turnip crop; but it seems evident that on the majority of farms too much dung is being put on the turnip-break. If the one-half were so applied, and the other half put on the cleaned land or on the second year's grass, there would be an important saving of dung, and I have every reason to believe that there would be no diminution in the turnip crop, but a considerable increase in the other crops of the rotation.

It is further seen from a comparison of the dunged and undunged plots that the addition of artificials to the dung last year has done very little good—one or other separately raised about 20 tons of turnips, but both together raised at most about 24 tons. Artificials and dung together did not pay, except perhaps in the case of plot 8, which got only phosphates at the rate of 16s. an acre put on it. On that plot there was an average increase of three tons per acre; on some farms a good deal more, and on others a good deal less. The addition of nitrogenous manures at the rate of 10s. or even 20s. per acre did not increase the crop so much as one ton per acre.

The lesson taught in all these districts is that the common practice is to put on double the dung that is economical, and along with the dung to spend double the money that is necessary for obtaining a full crop. The increase of crop, if any, that has been got by applying a great excess of dung, or more than 16s. worth of phosphatic manure, has been got at a loss.

So much for the general lessons taught by the Banffshire experiments. It only remains to notice one or two things in connection with them which are of interest. It was noticed that an unusual number of turnips had double, triple, or multiple tops, a peculiarity that is frequently

attributed to the quality of the seed sown; but it was found that this habit of growth was prevalent on many farms where the farmers were accustomed to grow their own seed from carefully selected bulbs, and that the seed of no particular seed merchant was more liable to it than that of another. It was evidently due to some interference of growth associated in some way with the character of the season. Whether mere drought could have caused it, or whether it might have been caused by damage from insects, which, owing to the warm dry season, were more abundant or more destructive than usual, remained matter of conjecture.

A still more remarkable and more disastrous accident occurred to the turnip crop in Banffshire, and also to the crop in the neighbouring counties, in the attack of a caterpillar which was found often in great numbers devouring the young leaves on the crown of the turnip. When my attention was first drawn to them on the farm of Forgieside, Keith, they were above half an inch long, and it may be that much of the multiple-topping just referred to was caused by the mischief done by the caterpillar at an earlier stage of its growth. Samples of the grub sent to the Board of Agriculture were submitted to Mr. Whitehead, who reported on it as follows:—"The swedes are injured by "root- and stalk-eating insects, whose action in bulbs, roots, and "leaves at their bases has set up unhealthy action, and caused decay "and rottenness. The action would indicate work of the larvæ of flies "such as *Anthomyia radicum* and *A. brassicae*; but no larvæ of either "of these were found, and only one larva of *A. tuberosa* was found, "which has usually been associated with potatoes. In the bulbs, how- "ever, or, more correctly, in the roots, there were found larvæ of a "‘rove’ beetle, as also in the leaves at their bases, close to the crown "of the bulb or root. They were feeding in the holes or tunnels which "they had made. I believe them to be larvæ of a beetle belonging to "the *Staphylinidae*, known as *Exztilus sculpturatus*. This beetle lives "in dung and decaying substances, and its larva feeds upon various "vegetables and juicy plants, from which it sucks the sap. From the "quantities that were in the roots and in the leaves, I should say they "are the main cause of the harm. It has been said that they feed only "on decaying matter; but I saw many of them actively engaged in "feeding on the fresh, sappy parts of the leaves, which were full of "holes made by them. It is difficult to suggest any remedial measures. "Lime and soot, in the proportion of one part of soot to three parts of "lime, dusted upon the crowns of the swedes, might prove unpleasant "to them; but it is obviously difficult to get at them, as they are in the "fleshy stalk."

In the month of September the grub had matured, and the turnip crop, which in many places seemed ruined, recovered wonderfully, and proved to be a fair crop in November.

Lastly, the old enemy "finger-and-toe" was very prevalent in many districts, and so seriously vitiated a number of the experiments that the results have had to be withheld as quite unreliable. The plot which suffered most was plot 5, to which a double dose of nitrate had been applied; and plot 1, with bone-meal and nitrate, was also very severely affected. Plot 9, which got no manure, was worse than any, and in some cases the crop almost disappeared from it. The more vigorous plots—2, 3, 4, and 7—suffered least of all.

It is evident from the results of these and many former experiments of a similar kind, that anything which weakens the young turnip plant,

such as poverty of soil, undue stimulation of growth by the excessive application of soluble nitrogenous manures, unfortunate tilth, or any kind of external injury, renders the plant liable to finger-and-toe, if the germs of that disease are resident in the soil. On the other hand, when the conditions are favourable for making a vigorous plant, the crop grows to perfection, even when the germs of the disease are known to be present in the soil.

The growing prevalence of this disease is now becoming a serious matter in many districts, and calls for investigation, so that some remedy may be found for it. The liming of land upon the lea, the widening of the rotation from a four or five to a six or seven shift, and the intervention of a potato crop between two turnip crops have all been known to get rid of the pest, which lives upon the roots of cruciferous plants; but it is probable that some simpler cure may be found as the result of observation and experiment.

NOTE.—This experiment is being repeated this year in Banffshire, in order that the results may be further verified, and in order to see what may be the effect of a different season with different climatic conditions.

TABLE I.—SUMMARY OF RESULTS OF EXPERIMENTS ON MANURING TURNIPS IN BANFFSHIRE, 1893.
Four Districts without Dung.

No. of Plot Manures	1. Bone-meal and Nitrate.	2. Superphos- phate and Nitrate.	3. Slag and Nitrate.	4. Mixed Super- phosphate and Slag and Nitrate.	5. Mixed Super- phosphate and Slag and Double Nitrate.	6. Bone-meal and Ammonia Sulphate.	7. Superphos- phate and Ammonia Sulphate.	8. Mixed Super- phosphate and Slag.	9. Nothing.
	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.
Central	16 13	19 18	17 19	20 5	19 8	17 13	19 9	18 0	7 8
Speyside	18 17	21 17	21 0	22 16	23 6	19 17	22 3	20 5	10 14
Boydie	22 6	24 15	22 7	24 15	23 11	20 14	22 3	21 10	14 15
Enzie	13 5	15 10	16 0	17 18	18 8	16 18	19 8	18 4	12 10
25 experiments, average	17 15	20 7	19 4	22 3	21 3	18 17	21 16	19 10	11 7
Three Districts without Dung.									
Central	16 13	19 18	17 19	20 5	19 8	17 18	19 9	18 0	7 8
Speyside	18 17	21 17	21 0	22 16	23 6	19 17	22 3	20 5	10 14
Enzie	13 5	15 10	16 0	17 18	18 8	16 18	19 8	18 4	12 10
15 experiments, average	16 5	18 19	18 3	20 6	20 7	18 14	20 7	18 16	10 4
The same along with Dung.									
Central	18 15	21 18	20 17	20 10	21 17	20 1	21 16	19 16	19 2
Speyside	23 11	24 15	25 14	26 13	26 16	24 6	27 1	25 17	21 0
Enzie	20 10	23 7	22 2	22 7	23 5	21 18	23 15	23 7	20 3
15 experiments, average	20 19	23 7	22 17	23 3	23 19	22 2	24 4	23 0	20 1

TABLE II.—EXPERIMENT VIII. C. BANFESHIRE, CENTRAL DISTRICT, 1893.
Without Dung.

No. of Plot	Manures	1.	2.	3.	4.	5.	6.	7.	8.	9.
		Bone-meal and Nitrate.	Superphosphate and Nitrate.	Slag and Nitrate.	Mixed Superphosphate and Slag and Nitrate.	Mixed Superphosphate and Slag and Double Nitrate.	Bone-meal and Ammonia Sulphate.	Superphosphate and Ammonia Sulphate.	Mixed Superphosphate and Slag.	Nothing.
1. Cantly, Grange	-	Tons cwt. 14 5	Tons cwt. 17 17	Tons cwt. 17 17	Tons cwt. 18 17	Tons cwt. 20 2	Tons cwt. 18 8	Tons cwt. 19 5	Tons cwt. 21 0	Tons cwt. 15 0
2. Lower Towie, Botriphnie	-	19 8	18 8	17 14	22 8	25 14	20 17	21 6	17 14	11 0
3. Glengerrack Mains	-	12 19	17 5	11 10	17 5	13 13	-	-	10 15	5 0
4. Westertown	-	15 1	15 15	16 0	15 8	16 0	12 0	12 8	15 5	4 0
5. Auchip	-	16 19	23 0	17 17	24 12	19 19	20 13	23 4	22 1	10 4
6. Mulben, Keith	-	20 7	21 18	20 16	22 4	22 0	18 1	18 10	18 17	6 11
7. Forgieside	-	16 10	19 15	17 15	19 7	18 0	16 17	19 10	18 7	6 10
8. Auchluncart	-	18 11	21 7	20 5	21 17	20 0	18 10	21 0	20 4	1 0
Average	-	16 13	19 8	17 9	20 5	19 8	17 18	19 9	18 0	7 8
9. Cantly, Grange	-	17 17	21 5	22 11	17 17	20 5	18 5	21 2	18 8	20 5
10. Lower Towie, Botriphnie	-	20 11	23 11	23 3	27 0	25 6	25 11	25 17	22 11	23 11
11. Glengerrack Mains	-	15 16	23 14	20 17	20 3	25 3	21 12	22 6	23 0	15 2
12. Westertown	-	18 14	19 9	18 0	19 2	20 7	18 0	19 13	17 15	-
13. Forgieside, Keith	-	22 0	22 2	20 10	19 12	20 17	20 5	22 15	20 17	20 10
14. Berryleys, Grange	-	17 14	21 8	20 5	19 6	19 6	16 14	19 5	16 8	14 3
Average	-	18 15	21 18	20 17	20 10	21 17	20 1	21 16	19 16	19 2

NOTES.

1 and 9. Heavy loam on clay; soil hard and dry; braird uneven; crop blanky.
 2 and 10. Black strong loam on clay. Plot 5, dunged, was inferior also in quality.

7 and 13. Strong dark loam.

3 and 11. Loam with clay. Plots 6 and 7 abnormally deficient.

4. Light loam. Plot 1 brairded badly. Plot 7 looked best.

5. Gravelly loam. Land grows poorer from 1 to 9.

6 and 12. Light loam. Whole crop severely attacked by caterpillar.

8. Poor, thin, somewhat clayey.

14. Severely attacked by caterpillar. The undunged plots destroyed thereby.

Auchip and Mulben were swedes; the others yellow.

TABLE III.—EXPERIMENT VIII. C. BANFFSHIRE, BOYNDIE DISTRICT, 1893.
Without Dung.

No. of Plot	Manures	1. Bone-meal and Nitrate.	2. Superphos- phate and Nitrate.	3. Slag and Nitrate.	4. Mixed Super- phosphate and Slag and Nitrate.	5. Mixed Super- phosphate and Slag and Double Nitrate.	6. Bone-meal and Ammonia Sulphate.	7. Superphos- phate and Ammonia Sulphate.	8. Mixed Super- phosphate and Slag.	9. Nothing.
1. Deskford Manse	-	Tons cwt. 17 2	Tons cwt. 17 2	Tons cwt. 19 0	Tons cwt. 19 4	Tons cwt. 21 16	Tons cwt. 21 14	Tons cwt. 19 9	Tons cwt. 20 15	Tons cwt. 11 10
2. Dyroch	-	26 5	28 17	26 8	27 0	26 15	19 0	23 7	18 0	12 0
3. Mains of Glasshaugh	-	16 (fly)	21 3	20 14	21 8	20 5	18 0	19 1	23 5	14 11
4. Clune, Deskford	-	25 10	30 4	21 12	27 17	27 0	26 3	28 14	24 19	21 8
5. Forester's Lodge, Cullen	-	17 0	18 0	14 10	17 10	16 10	15 10	14 0	15 0	12 10
6. Cullen Home Farm	-	22 14	25 15	24 4	27 17	27 19	25 16	26 3	29 9	19 17
7. Cairnton of Boyndie	-	25 14	26 0	25 11	28 17	25 9	22 17	23 11	22 11	17 2
8. Ordens, Boyndie	-	21 5	24 9	25 7	26 1	25 10	22 17	24 5	25 10	9 0
Average	-	21 9	22 15	22 4	24 9	23 18	21 9	22 6	22 8	14 15
Average, omitting 1 and 8	-	22 6	24 15	22 7	24 15	23 11	20 14	22 3	21 10	—
9. Cullen Home Farm	-	28 10	35 5	36 0	31 17	34 2	34 13	33	30 12	29 12

Notes.

1. Stiff clay; subsoil very hard, wet. Soil seems improving from 1 to 9.
2. Clay.
3. Loamy clay. No. 1 attacked by fly more severely than the others. No. 3 improved most in October.
4. Heavy loam. Nos. 6, 7, and 8 had more diseased roots than the others.
5. Hazel loam. An additional plot with potash manure should show potash was wanted.
6. Loam. Soil seems improving from 1 to 9.
7. Sandy loam. Nos. 5, 6, and 7 most affected with finger-and-toe—No. 7 the worst.
8. Light black soil.
9. Moss. Land rich in nitrogen. Phosphate and potash needed.

TABLE IV.—EXPERIMENT VIII. C. BANFFSHIRE, ENZIE DISTRICT, 1893.

Without Dung.

No. of Plot	Manures	1. Bone-meal and Nitrate.	2. Superphos- phate and Nitrate.	3. Slag and Nitrate.	4. Mixed Super- phosphate and Slag and Nitrate.	5. Mixed Super- phosphate and Slag and Double Nitrate.	6. Bone-meal and Ammonia Sulphate.	7. Superphos- phate and Ammonia Sulphate.	8. Mixed Super- phosphate and Slag.	9. Nothing.
		Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.
1. Braes, Enzie	-	16 8	19 1	18 2	19 6	21 19	17 18	21 15	20 5	—
2. Bogs "	-	8 7	10 0	12 1	14 3	8 15	12 7	15 13	12 17	8 2
3. Auchenhalg	-	15 0	17 10	17 16	20 6	24 9	20 10	20 18	21 11	17 0
Average	-	13 5	15 10	16 0	17 18.	18 8	16 18	19 8	18 4	12 10
<i>With Dung.</i>										
4. Braes, Enzie	-	15 13	20 9	17 14	18 17	21 2	18 17	21 15	21 10	—
5. Bogs "	-	23 11	25 5	24 8	25 2	25 0	24 2	25 6	25 18	20 13
6. Auchenhalg	-	19 7	24 8	24 4	23 2	23 13	20 17	24 4	20 13	19 14
Average	-	20 10	23 7	22 2	22 7	23 5	21 18	23 15	23 7	20 3

NOTES.

1. Strong heavy loam. Finger-and-toe prevalent, especially in plot 1.
2. Sandy clay. Finger-and-toe prevalent. Mildew appeared in August over whole field.
3. Sandy loam. Finger-and-toe prevalent.
4. Strong heavy loam. Finger-and-toe prevalent.
5. Heavy loam. Finger-and-toe prevalent. Also mildewed.
6. Sandy loam. Finger-and toe prevalent.

TABLE V.—EXPERIMENT VIII. C. BANFESHIRE, SPEYSIDE, 1893.
Without Dung.

No. of Plot Manures	1. Bone-meal and Nitrate.	2. Superphos- phate and Nitrate.	3. Slag and Nitrate.	4. Mixed Super- phosphate and Nitrate.	5. Mixed Super- phosphate and Double Nitrate.	6. Bone-meal and Ammonia Sulphate.	7. Superphos- phate and Ammonia Sulphate.	8. Mixed Super- phosphate and Slag.	9. Nothing.
	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.	Tons cwt.
1. Inverfiddich	12 2	18 7	18 1	16 5	18 13	17 2	18 0	13 15	3 17
2. Belnagarrow	22 0	26 7	24 0	30 9	31 0	23 0	26 0	25 0	3 6
3. Aberlour	22 0	22 3	21 12	21 17	22 0	22 0	22 2	21 19	18 16
4. Ballindalloch	13 16	18 13	13 18	16 16	15 19	15 12	20 7	16 12	12 2
5. Hatton, Aberlour	22 7	22 15	24 4	25 18	27 1	21 17	23 10	24 13	17 10
6. Cardow, Knockando	20 15	22 15	24 2	25 9	25 1	19 13	23 1	19 13	8 15
Average	18 17	21 17	21 0	22 16	23 6	19 17	22 3	20 5	10 14
<i>With Dung.</i>									
7. Inverfiddich	16 10	18 7	19 2	21 0	21 8	18 17	20 15	16 7	16 6
8. Belnagarrow	23 0	27 4	27 0	23 0	30 4	22 0	30 7	30 0	18 0
9. Aberlour	30 1	30 6	30 0	30 2	30 8	30 1	30 6	30 1	28 2
10. Ballindalloch	19 5	18 6	20 17	21 12	20 14	17 10	19 5	21 13	15 5
11. Hatton, Aberlour	28 10	27 19	30 10	29 2	29 2	28 16	30 16	29 13	23 3
12. Cardow, Knockando	24 0	26 6	26 18	30 0	29 0	28 11	30 18	27 9	26 2
Average	23 11	24 15	25 14	26 13	26 16	24 6	27 1	25 17	21 0

NOTES.

- 1 and 7. Heavy clay loam. Wet. After three white crops in succession.
 2 and 8. Rich loam with clay. Dry. Thunderstorm three days after sowing
 3 and 9. Deep free loam in high condition.
 4. Loam on gravel. No disease or accident.
 5 and 11. Medium loam. After two crops oats.
 6 and 12. Light loam on reddish subsoil. No rain for two months after sowing.
 10. Finger-and-toe prevalent. Worst in plot 6; least in plot 8.

III.

Reports on Special Classes, 1893-4.

III.—SPECIAL CLASSES.

(1.) REPORT ON THE SPECIAL CLASS FOR DAIRY TEACHERS.

A desire having been expressed for a repetition of the class for dairy teachers provided last year by the Board in conjunction with the University College of North Wales, Bangor, the demand was acceded to, and selection was made of the Yorkshire College, Leeds, as the centre where the instruction should this year be given. The authorities of that college willingly undertook the conduct of the matter, and the experience of the former course having suggested several ways in which improvements might be effected, the result was a most successful class and one which, judging from the letter of thanks sent to the Board of Agriculture at its conclusion by the members taking part in it, was thoroughly appreciated by those for whose benefit it was provided.

The class as before was limited, but the Board, in making known their intention of providing it, intimated that as it was similar in character and not supplemental to that conducted at Bangor, the preference in selection of candidates to attend would be given to those actual teachers who had applied unsuccessfully for permission to attend the previous class.

The class numbered in all 28 persons, of whom 26 were selected by the Board as above, and two were teachers connected with the Yorkshire College. Those selected by the Board had been engaged in teaching for, and were applied for by, the following County Councils or other institutions.

COUNTY COUNCILS for—

Banffshire.	Isle of Wight.
Berwickshire.	Kent.
Caithness.	Lancashire.
Cheshire.	Lincoln (Lindsey).
Cornwall.	„ (Kesteven).
Cumberland (2).	Nottinghamshire.
Dorset.	Salop.
Essex.	Somerset.
Hampshire.	Surrey.
Herefordshire	Wiltshire.
Invernesshire.	

INSTITUTIONS.

University College of Wales, Aberystwyth.	British Dairy Farmers' Association.
Bath and West of England Society.	Eastern Counties Dairy Institute.

Out of the 26 thus selected, 20 had previously unsuccessfully applied for permission to attend the class of the year before.

The class assembled on the 12th February and the subjects of instruction (which lasted for 3 weeks) were as follows:—

I.—ON DAIRY FARMING.

(Professor James Muir.)

Soils. Origin, formation, composition, and properties. Cultivation and general management.

Natural and artificial manures.

Cultivation and management of crops on a dairy farm

Management of meadow and pasture land. The chief grasses and other plants found in grass land.

Farm live stock. The breeds of cattle. Choice and management of dairy cattle.

Feeding stuffs and fodders used on the farm. Feeding of cattle at different stages of growth and under various conditions.

Breeds of pigs. Feeding and management.

Buildings on a dairy farm, their arrangement and fittings. Ventilation and drainage.

Different systems of dairying.

Dairy instruction. Essential and non-essential points. Suitability for various circumstances.

II.—ON ELEMENTARY CHEMISTRY WITH SPECIAL REFERENCE TO DAIRYING.

(Mr. Herbert Ingle, F.I.C.)

General properties of matter. Physical and chemical changes. Influence of external agencies in promoting or modifying chemical changes.

The indestructibility of matter. Divisibility of matter. Outlines of the atomic theory.

The elements. Chemical symbols, formulæ, and equations. Nomenclature.

Hydrogen, its occurrence, preparation, and properties.

Oxygen. Water, its composition and properties. Natural waters.

Nitrogen. The atmosphere, its composition and functions. Ammonia, ammonium compounds.

Phosphorus, the phosphates, bones, and bone ash.

Carbon, carbon compounds, carbon dioxide. The carbonates, limestone, &c. Hydrocarbons. Carbohydrates. The fats. Nitrogenous organic compounds, albumen, casein, &c.

The chemistry of milk. Analysis of milk. Methods of determining the quantities of fat, total solids, and water in milk.

The chemistry of butter. Analysis of butter.

Cheese, its composition and analysis.

III.—PRACTICAL WORK IN THE CHEMICAL LABORATORY.

(Mr. Herbert Ingle, F.I.O.)

General manipulation.

Preparation of a few typical elements and compounds, including oxygen, hydrogen, carbon dioxide, nitric acid, ammonia, and phosphoric acid, and the demonstration of the principal properties of these substances.

Use of the balance.

Determination of specific gravity. The lactometer.
 Use of the burette and other measuring instruments. Simple
 volumetric processes.
 Demonstrations of the methods of determining the amounts of fat,
 water and total solids in milk.

IV.—ON BOTANY.

(Mr. H. Wager.)

Elementary anatomy and physiology of flowering plants.
 Diseases of plants.
 Bacteria.
 Practical demonstrations in the laboratory to illustrate the lectures.

V.—ON POULTRY KEEPING.

(Mr. Edward Brown, F.L.S.)

Introduction to course. Explanation of appliances.
 Origin of domestic fowl. Sports and variations.
 Anatomy of the fowl. Classification of poultry.
 Varieties of the fowl.
 Varieties of waterfowl and turkeys.
 Housing.
 Breeding and selection.
 Formation of the egg and chicken.
 Value of foods, and methods of feeding.
 Fattening of waterfowl and turkeys.
 Diseases of poultry.

Demonstrations with respect to :—

Hatching and rearing.
 Fattening of fowls.
 Killing and dressing.
 Preservation and packing of eggs.

In a recently published report of the work of the Yorkshire College for 1893-94 mention is made of the class in the following terms :—

“The quickness and earnestness shown in their work by all the members of the class made it one of the most satisfactory features of the year's work, and rendered it possible, in spite of the extreme shortness of the time allotted, to get through an amount of work which must prove of great service to the teachers in their profession.”

Those who had direction of the different subjects taught have also specially reported for the Board on the work done, as under.

The Professor of Chemistry said :—

“The chemical instruction consisted in a course of lectures in which an elementary account was given of the general principles of chemical science and of those parts of the subject standing in specially close relationship to the processes of the dairy.

"In addition, instruction was given in chemical manipulation in the performance of experiments illustrating the subject matter of the lectures, in the chemical and physical examinations of milk. The students showed very marked interest and intelligence in their work, and formed an admirable class. Their work in the laboratory was exceptionally well done, being characterised by a degree of neatness quite unusual in beginners."

The Lecturer on Botany reported:

"In the elementary course of botany given to dairy teachers a series of lectures was given on the general anatomy and physiology of flowering plants, the diseases of plants, and the principles of classification with reference to common farm plants. Lectures were also given on bacteriology with special reference to the bacteria of milk. A number of practical demonstrations were also given to illustrate the above, and special attention paid to the methods of preparation and observation of the plants studied.

"The teachers showed great interest in the work, and were most successful in the preparation and mounting of objects for the microscope.

A special feature of the class was the introduction of lectures on poultry keeping, and the lecturer has submitted the following report in connection with the work accomplished in that subject:—

"Considerable interest was manifested by the students in this section during the three weeks' instruction, and the various lectures and demonstrations were followed carefully and closely, whilst the large number of questions asked both during the lectures and privately showed that many teachers approached the question realising the opportunity thus placed within their grasp by the Board of Agriculture. More than half undertook the work of regularly manipulating the various appliances in operation, and though we were by no means well situated for the accommodation of these machines, I have every reason to believe that this work will bring its own reward to them.

"By arrangement, I had conversations with most of the students, who met me after college hours for that purpose, and this enabled me to learn what are the special conditions in the district where they are working, whilst I was thus able to advise as to any special difficulties with which they have to contend. In several cases the students came with a prepared list of questions, and this fact was most satisfactory. From them I learned that there is an increasing desire for instruction upon poultry-keeping in many parts of the kingdom, and I need hardly point out that dairy teachers have special opportunities of pressing this question forward, not only in regard to the production of eggs and poultry, but also by reason of the fact that dairy and poultry products can be so easily marketed together.

"During the three weeks we had incubators and brooders in operation, and a number of fowls undergoing the process of fattening, both by hand and cramming machines. For this work several firms kindly sent apparatus, while in the lesson in dressing fowls a local poulterer rendered great service by sending one of his most skilful men to demonstrate this section of the work."

(2. REPORT ON THE SPECIAL CLASS FOR FORESTERS AND GARDENERS,
ROYAL BOTANIC GARDEN, EDINBURGH.

The arrangements between the Board of Agriculture and Her Majesty's Commissioners of Works, explained in a previous report, have been continued during year 1893-94.

The summer session of the class of working foresters and gardeners commenced on the 14th April, the subjects studied being economic entomology and practical land surveying. The winter session opened on 3rd October 1893, the subjects in which instruction was given being geology and practical botany; at the conclusion of the geology lectures, a course in meteorology commenced.

During February a month's special course of lectures in forestry were interposed. These were given by Dr. Nisbet, of the Indian Forest Service, and were of an interesting and practical character.

The collection of standard and trustworthy books formed for this class in the library of the Garden was found of great value, and the volumes eagerly sought after and consulted daily by the men under instruction.

Examinations were held in the various subjects dealt with.

The following extracts will indicate the nature of certain of the courses given during the year:—

LECTURES ON ECONOMIC ENTOMOLOGY.

By R. STEWART M'DOUGALL, M.A., B.Sc.

The position of Insects in the animal kingdom.

General description of their structure and life history.

Division of the Group Insecta into orders, the basis of classification being certain peculiarities of the wings.

Secondary groupings suggested by:—

(a.) Differences in mouth parts.

(b.) Complete or incomplete metamorphosis.

Leading characters of the various orders.

Identification of larvæ.

Pests studied in detail under following heads:—

(a.) Description and life history of pest.

(b.) Nature and extent of damage.

(c.) Methods of prevention against attack.

(d.) Remedies in case of attack.

PESTS.

I.—INJURIOUS TO FOREST TREES.

Oak.—Cockchafer (*Melolontha vulgaris*). Goat Moth (*Cossus ligniperda*). Oakleaf roller moth (*Tortrix viridana*). Marble Gallfly (*Cynips kollari*). Common spangle gallfly (*Neuropterus lenticularis*).

Pine.—Pinebud tortrix moth (*Retinia turionana*). Pineshoot tortrix moth (*Retinia buoliana*). Pine beetle (*Hylurgus piniperda*). Pine weevil (*Hylobius abietis*). Pine sawfly (*Lophyrus pini*). Giant siren (*Sirex gigas*). Common siren (*Sirex juvenens*).

Elm.—Elm bark beetle (*Scolytus destructor*).

Ash.—Ash bark beetle (*Hylesinus fraxini*).

Larch.—Larch aphid (*Chermes laticis*). Larch moth (*Coleophora laticella*).

Lime.—Buff tip moth (*Pygæa bucephala*). Hop and lime tree red spider (*Tetranychus tiliarum*); not an insect.

Willow.—Willow beetle (*Phratora vitellina*).

Poplar.—Puss moth (*Dicranura vinula*). Poplar moth (*Smerinthus populi*).

Birch.—Gall mite (*Phytoptus*); not an insect.

Spruce.—Spruce gall aphid (*Chermes viridis*).

Fir.—Fir aphid (*Chermes abietis*).

II.—INJURIOUS TO FRUIT AND FRUIT TREES.

Apple.—Codlin moth (*Carpocapsa pomonella*). Figure-of-8 moth (*Diloba cæruleocephala*). Lackey moth (*Bombyx neustria*). Small ermine moth (*Hyponomeuta padellus*). Apple blossom weevil (*Anthonomus pomorum*). Mussel scale (*Aspidiotus conchiformis*). American blight (*Schizoneura lanigera*). Apple aphid (*Aphis mali*).

Plum.—Plum aphid (*Aphis pruni*). March moth (*Anisopteryx æscularia*). Mottled umber moth (*Hybernia defoliaria*). Winter moth (*Cheimatobia brumata*). Shot borer beetle (*Xyleborus dispar*).

Pear.—Wood Leopard moth (*Zeuzera æsculi*). Common vapourer moth (*Orgyia antiqua*). Pear and cherry sawfly (*Tenthredo cerasi*).

Strawberry.—Greenrose chafer (*Cetonia aurata*).

Raspberry.—Blackvine weevil (*Otiorhynchus sulcatus*).

Gooseberry.—Magpie moth (*Abraxas grossulariata*). Gooseberry and currant sawfly (*Nematus ribesii*).

Currant.—Woolly currant scale (*Pulvinaria ribesiae*). Currant gall mite (*Phytoptus ribis*); not an insect.

III.—INJURIOUS TO FOOD CROPS¹²

Corn and Grass Crops.—Antler moth (*Charæa graminis*). Corn aphid (*Aphis granaria*). Wireworm (*Elatér lineatus*). Daddy longlegs (*Tipula oleracea*). Goutfly (*Chlorops tæniopus*). Fritfly (*Oscinus frit*). Wheat midge (*Cecidomyia tritici*). Hessian fly (*Cecidomyia destructor*). Corn thrips (*Thrips cerealium*).

Potatoes.—Death's head moth (*Acherontia atropos*). Potato gigfly (*Eupteryx solani*).

Turnips.—Turnip moth (*Agrotis segetum*). Turnip sawfly (*Athalia spinarum*). Diamond back moth (*Plutella cruciferarum*). Turnip fly (*Haltica nemorum*). Turnip aphid (*Aphis rapæ*).

Mustard.—Mustard beetle (*Phædon betula*).

Cabbage.—Large white cabbage butterfly (*Pieris brassicæ*). Small white cabbage butterfly (*Pieris rapæ*). Green-veined white butterfly (*Pieris napi*). Yellow-underwing moth (*Noctua pronuba*). Cabbage fly (*Anthomyia brassicæ*). Cabbage moth (*Manestra brassicæ*). Cabbage and turnip gall weevil (*Ceutorhynchus sulcicollis*).

Carrots.—Carrot fly (*Psila rosæ*).

Beet and Mangold.—Silver Y moth (*Plusia gamma*). Beet carrion beetle (*Silpha opaca*). Beet fly (*Anthomyia betæ*).

Beans.—Bean beetle (*Bruchus granarius*). Bean aphid (*Aphis rumicis*).

Peas.—Pea and clover weevil (*Sitones lineatus*).

Clover.—Clover pear-shaped weevil (*Apion apicans*).

Asparagus.—Asparagus beetle (*Crioceris asparagi*).

Onion.—Onion fly (*Anthomyia ceparum*).

Hops.—Oter moth (*Hepialus humuli*). Hop aphid (*Aphis humuli*). Hop cuckoo fly (*Euacanthus interruptus*).

PARASITIC INSECTS.

BIRDS IN RELATION TO INSECT LIFE.

LECTURES ON GEOLOGY,

By GEORGE S. CORSTORPHINE, M.A., B.Sc., assistant to the Professor of Geology in the University of Edinburgh.

Soil a result of the decay of the rocks forming the surface of the earth; surface features produced; relation of these to the underlying rocks.

The composition of rocks—chief elements entering into rocks; combinations of these elements as minerals; the rock-forming minerals.

Classes of rocks; characters of the more commonly occurring rocks.

Structural features of rock masses.

History of the earth as told by the rocks; arrangement of the rocks in chronological series; distribution of the members of the series in Scotland.

Agents which produce and modify surface features :—volcanic activity ; subaerial agents ; organic agents.

Weathering and disintegration of rocks by these agents ; the soils resulting ; carried soils ; vegetation and soils.

Excursions will be made during the session for the study of field-geology.

LECTURES ON MENSURATION, LAND SURVEYING AND LEVELLING,

By A. D. RICHARDSON.

Geometry.—Its application in mensuration and land surveying.

Mensuration of Lines.—Linear measures. Properties of the right-angled triangle and circle.

Mensuration of Surfaces.—Square measures. Area of the parallelogram, triangle, trapezoid, trapezium, polygon, and circle.

Mensuration of Solids.—Solid measures. Volume of the prism, cylinder, pyramid, cone, sphere, wedge, and prismoid.

Land Surveying.—Two fundamental methods, viz., (a) by distances and offsets, and (b) by triangles. By chain and cross. By angular instruments.

Surveying by Chain and Cross.—Chain and arrows ; measuring tape ; offset staff ; cross staff ; optical square ; marks and signals. Stations and station lines. Chained triangles. Perpendiculars ; tie-lines ; offsets. Chaining on slopes. Obstacles in station lines. Surveying inaccessible areas, roads, rivers, &c. Finding meridian. Plotting survey. Scales. Computing area of survey. "Simpson" rule.

Surveying by Angular Instruments.—"Traversing" and "trigonometrical" surveys. The theodolite, box sextant, and prismatic compass—their adjustments and uses. Selection of base-lines and stations. Measurement of base-lines. Measurement and protracting of angles. Trigonometrical formulæ required.

Levelling.—Principles of levelling. Levelling instruments. "Dumpy" and other levels ; levelling staff ; levelling book. Datum point ; datum line ; bench marks. Cross sections. Flying and check levels. Reducing levels and plotting the section. Scales.

Setting Out.—Ranging straight and curved lines. Marking out centre line on ground. Working section and level book. "Boning" rods, &c.

The practical part of the course, which will embrace field-work and levelling, will be taken up in the summer evenings.

IV.

Report on Special Research into the
Processes of Cheddar Cheese-making.

IV.—REPORT ON SPECIAL RESEARCH INTO THE PROCESSES OF CHEDDAR CHEESE-MAKING.

BATH AND WEST AND SOUTHERN COUNTIES SOCIETY.

(MR. F. J. LLOYD, F.C.S., F.I.C.)

There are certain soils or farms in England, especially in Somerset, upon which, if tradition can be believed, there are spectre sign-boards bearing the words, "good cheese cannot be made here." Unfortunately, no one is able to see these signs except the tenant for the time being. But the belief in the inability to make good cheese on certain soils is so widespread, and the conviction that it is founded upon fact is so strong, that the subject deserves careful attention and inquiry. Some people have said that the Society always selected a site for its cheese school where it was possible to make not only good but the best cheese, but that if a site were selected where good cheese had not been made before, they would find out that it was impossible to make good cheese on such soil.

In 1892 such a site was selected, the milk being produced off alluvial land overlying peat; and in 1893 the Committee again determined to select such a site, with the result that a farm was chosen, known as the "Lower Rock Farm," situate at Butleigh, about 4 miles from Glastonbury Station, on the property of Mr. R. Neville Grenville.

Now, as the prices fetched by the cheeses made at the Dairy School averaged from June to October 68s. per cwt. and 66s. per cwt. for the season, it might be inferred that no difficulty was found in making cheese upon this site. Such supposition would be far from the truth. The difficulties were great, and such as had not been met with during the two preceding years. Although these difficulties fluctuated from day to day, being at times very great, at others only slight, and this even when the cows were on the same pasture, yet as a matter of fact they were nearly always present. All the skill and experience, which Miss Cannon possesses in an exceptional degree, were needed to cope with them, and I can quite believe that an ordinary cheesemaker would find such difficulties insurmountable.

The number of cows kept by the tenant of Lower Rock Farm was not sufficient to supply all the milk required, so that some had to be supplied by the tenant of an adjoining farm.

Mr. Carruthers visited these farms, and examined with care the vegetation of the 10 fields in which the milch cows grazed, and four samples of soil were forwarded to Dr. Voelcker for analysis, but neither a botanical examination of the herbage nor yet a chemical examination of the soils disclosed any reason for the local opinion as to the unsuitability of the land for cheese-making, nor did they throw any light on the difficulty met with in practice.

The season 1893, as is well known, was an exceptional one, and the result thereof is seen in many ways.

First. The effect of the warmth was already felt in April. Thus in 1892 the average time of vatting in that month was 6.58 p.m., while in 1893 the average time was 4.34 p.m., nearly $2\frac{1}{2}$ hours sooner. That this was due to the heat is shown by the fact that the average temperature of the dairy in 1892 was 54–60°, and in 1893 from 59–68°. It is also seen by comparing the average temperature of the curd when in vat, which in 1892 was 67° Fahr., while in 1893 it was 76° Fahr.

Secondly. If we compare the average results obtained at Butleigh in 1893 with those obtained at Vallis and Axbridge in 1891 and 1892, as given in the following table, it will be seen that the yield of milk, owing to the shortness of keep, declined in June, and still further in July, while in each of the preceding years it rose in June very considerably, and even in July was in one case more than, and in the other nearly equal to, the yield in May (*see* table p. 115).

Great as was the influence of the heat, even as seen when we compare the monthly average of milk, it was greater still when we compare the yield week by week. Indeed, the fluctuations were quite remarkable, the yield sometimes rising, and then again falling in a manner not easily to be accounted for.

The following facts are of interest as showing the effect of the drought, and they also indicate how very rapidly under such circumstances the cows felt the effect of the change produced in the food. The milk supply on the whole gradually decreased from the end of May. During the last week of May the cows were yielding about 160 gallons of milk. From that date no rain to speak of fell until the 22nd and 23rd June. The average yield of milk for the week preceding this fall was 131·7 gallons per day, but for the week after it rose to 137·1 gallons per day. Then it began to diminish, until on the 11th July it amounted to only 126 gallons. A slight fall of rain on this day, followed by another on 15th and again on 19th, had such effect that whereas the average yield for the first 10 days in the month was only 130·6 gallons per day, the average daily yield for the last 10 days was 142·9 gallons.

The effect of the season on the quality of the milk was also most marked. Thus, while in April of each year the amount of cheese made from one gallon of milk has been practically identical (*see* table, p. 115), and in former years has increased every month, yet in 1893, after slightly increasing in May, it actually fell again in June, and in July and August was less than in either of the preceding years. We are justified therefore in concluding that, both in quality as well as in quantity, the milk was diminished by the prolonged drought.

AVERAGE RESULTS OBTAINED IN 1891, 1892, AND 1893.

Month.	Vallis, 1891.					Arbridge, 1892.					Butleigh, 1893.				
	Vol. of Milk.	Cheese taken from Press.	Cheese when sold.	Shrinkage in ripening.	Cheese from One Gallon of Milk.	Vol. of Milk.	Cheese taken from Press.	Cheese when sold.	Shrinkage in ripening.	Cheese from One Gallon of Milk.	Vol. Milk.	Cheese taken from Press.	Cheese when sold.	Shrinkage in ripening.	Cheese from One Gallon of Milk.
April	Gals. 81	lbs. 73	69	4	lbs. .85	Gals. 79	lbs. 70	66	4	lbs. .83	Gals. 106	lbs. 96	89	7	lbs. .84
May	-	119	117	6	.93	109	102	94	8	.86	149	142	132	10	.88
June	-	132	132	9	.93	127	122	113	9	.90	141	130	121 $\frac{1}{2}$	8 $\frac{1}{2}$	.85
July	-	112	114	7	.96	116	115	108	7	.93	134	129	122	7	.91
August	-	91	99	8	1.00	100	102 $\frac{1}{2}$	94	8 $\frac{1}{2}$	.94	134	131 $\frac{1}{2}$	124	7 $\frac{1}{2}$	.92
September	-	79	87 $\frac{1}{2}$	5 $\frac{1}{2}$	1.04	84	91	85	6	1.01	102 $\frac{1}{2}$	109 $\frac{1}{2}$	104	5 $\frac{1}{2}$	1.02
October	-	52	64	4 $\frac{1}{2}$	1.14	58	68	62	6	1.07	68	80	77	3	1.13

Being anxious to discover what effect the drought was having upon the composition of the milk yielded at Vallis and Axbridge, where the cheese school was held in 1891 and 1892, I wrote to Mr. Armstrong and Mr. Tilley asking for samples. These they very kindly forwarded. Unfortunately, the time taken in the transit of the samples was so long, and the heat so great, that sometimes when they reached me they were curdled, and a full and satisfactory analysis could not be made.

The following are the results obtained, and they are interesting:—

AVERAGE COMPOSITION OF MILK from VALLIS, AXBRIDGE, and BUTLEIGH, between 19th and 24th May, 1893.

Milk from—	Fat.	Casein, &c.	Solids.
Vallis - - - - -	3·08	8·86	11·94
Axbridge - - - - -	3·16	8·91	12·07
" in 1892 - - - - -	3·25	8·95	12·20
Butleigh - - - - -	3·18	8·98	12·16

It is noteworthy that the milk from Vallis, which in an ordinary season, as shown by the results in 1891 (*see* table, p. 115), is richer than that yielded at Axbridge, or than that yielded in 1893 at Butleigh, was poorer in May last than the milk at either Axbridge or Butleigh. The reason of this is doubtless the fact that high ground like that at Vallis felt the drought and heat more than the moor lands of Axbridge and Butleigh. In the milk from these soils there was remarkable similarity.

We can also compare the milk yielded at Vallis, Axbridge, and Butleigh for the later portion of the season during the three years.

COMPOSITION OF MILK at VALLIS, AXBRIDGE, and BUTLEIGH compared.

—	Fat.	Casein, &c.	Solids.
1891. Vallis, 1st week in September, 4-9 -	4·15	8·76	12·91
1892. Axbridge, " " " " -	3·50	8·96	12·46
1893. Butleigh, " " " " -	3·53	9·00	12·53
1891. Vallis, 1st week in October, 2-7 -	4·39	9·08	13·47
1892. Axbridge, " " " " -	3·87	9·08	12·95
1893. Butleigh, " " " " -	4·30	9·19	13·49

It will be seen that the composition of the milk at Butleigh in September was again very similar to that yielded at Axbridge during the same month of 1892. And the rapid rise in quality of the milk at Butleigh in October is due to the equally rapid and exceptional fall in the quantity yielded, and is therefore no criterion of the influence of the land or the pastures or the season.

BACTERIOLOGICAL OBSERVATIONS.

The defects found in the curd—for it is not until the curd is taken out of the tub that the presence of some taints is distinctly noticeable—may be

stated to be three in number. First, as being the one which was almost constant, was a faecal smell, which, though very faint at first, became quite strong before the curd was vatted, and was so unpleasant on some occasions that it made one feel quite sick to be near the curd for any length of time.

When this peculiar smell was present Miss Cannon informed me that it was most difficult to know whether the curd had attained sufficient acidity for grinding or not. The acidity apparatus was found of very great advantage in helping to determine this most important point. Miss Cannon takes so much interest in the observations that it was not possible to prevent her seeing the results obtained by the chemical test for acidity, and therefore it soon became evident to her that the best results were obtained when the acidity was high.

As illustrating the difficulty of judging the acidity when this taint was present, it may be mentioned that upon one such occasion Mr. Cannon happened to visit the dairy. I asked him if in his opinion the curd was fit to grind. After examining it carefully he said that it was; but, judging from the acidity test, it was not. However, I thought it would be a good experiment to have it ground then, and to try, when the cheese was ripe for sale, whether he was right or not. This cheese was made on the 25th June, and was tasted by Mr. Hill, Mr. Cannon himself, and Mr. Gibbons, on the 17th September. The result was a very inferior cheese.

The second taint was one which I have met on a few previous occasions, and is similar to the smell of an out-of-the-way chemical compound "aldehyde." When it is present, the curd sours very rapidly, and requires to be closely attended to. Such was the cheese made on the 27th of April, which was put away at 2.6 p.m., although the average time of vating for the month was 4.34 p.m.; it will also be noticed that though the acidity of the whey coming from the curd after second cutting was only 0.94 per cent., yet the acidity of the whey, or liquid, from press was 1.12, which is very high. On the 16th and 21st of May similar rapid development of acidity took place; in the one instance the cheese being vatted at 12.55, and in the other at 2.10, although the average of the month was as late as 4.57.

The third taint was that which is well known to cheese-makers, and is the cause of a spongy curd. It was noticed upon several such occasions that the whey had during the night fermented to such an extent that in the morning it was all blistered and frothy. Upon examination under the microscope this whey cream was found to be teeming with bacteria.

Samples of milk, curd, and whey have been examined in dozens of instances when these taints were present, and the number of bacteria found and their variety have given me an enormous amount of work. It may be possible some day to present readers of this Report with photographs of these bacteria, but at present it would be useless, for it has not yet been possible to prove which are the particular organisms that produce the mischief in each case. Indeed it may take some years to prove this, for it will be necessary to preserve the various organisms, and to make cheese from milk into which each has been placed.

In the spongy curd alone no less than five distinct kinds of organisms have been found, and some idea of the work which has yet to be done may thus be obtained.

One organism in particular has been found so frequently that I am bound to consider that it has much to do with the condition of the milk.

It is in every respect, so far as I have been able to make out, exactly similar in its appearance and growth, and in the various forms which it assumes to organisms previously described, but not in connection with the manufacture of cheese.

But the question of most practical importance is, whence do these bacteria come?

In all my former work the organisms found in the milk have been chiefly impurities gathered from the air. In some instances where they have been of a special character I have been able to trace their source. And in other cases it has been proved that they have no hurtful influence upon the cheese. But every endeavour to trace certain of the organisms present this season has failed. Some I was able to trace; thus, one variety I felt sure was due to sores on the teats of the cows, and, upon examining the strainer over which the milk is passed before it enters the tub I found a small scab therein, which upon careful microscopical examination was found to contain similar organisms. This trouble with the cows was frequent throughout the season, and invariably the same bacteria were found. They were chains of spherical organisms, and are known as streptococci. Another cause of bacteria entering milk were the flies; these at times were very troublesome. Many will get into the milk during the period of milking, more especially at certain times of the year, and particularly during a very dry and hot season such as the last. Probably milkers take very little heed whether the flies get into the milk or not; but I am certain that it is necessary to prevent this as much as possible. One knows that when flies settle upon dung in a field, they take some of this upon their bodies or feet, and carry it to the cows or to any article upon which they next settle. Now, having examined the bacteria in the dung of cows and horses, I find certain forms present which are not generally, and should not be, in milk. As I found one of the most characteristic of these in the milk on several occasions, I came to the conclusion that the cows were not being kept as clean as they should be. I inspected the cows, but did not find this supposition borne out by their appearance. The cows were well looked after. The conclusion that I finally arrived at was that the bacteria were carried to the milk by flies. Many investigations were made, and these proved, without doubt, that when flies were very numerous in the milk, bacteria were also numerous.

It must be here mentioned that the dairy was low and whitewashed. Now whitewash in very warm weather appears to attract flies; hence they were numerous in the dairy during the great heat of the summer, and during that period the milk was more tainted than later on. Again, I noticed that the whey never fermented so badly as when there were large numbers of flies in it.*

It is an accepted fact that milk as it comes from the cow is free from bacteria. Hence the bacteria which get into it before it enters the dairy must come: 1st. From the air which it passes through in its passage to the pail. 2nd. From the pail itself. 3rd. From the hands of the milkers. Or, 4th. From the teats of the cow. I have already referred to the possibilities of contamination from the teats. The pails were so carefully cleansed that in this instance I do not believe they were the means of introducing bacteria into the milk. One word as to the hands of the milkers. Probably care was taken, certainly careful instructions

* Referring to former reports it has been mentioned that taints were most frequent in the past at about hay time. This is usually a time when flies are very troublesome, and that may account for the observed facts.

were frequently given as to the necessity of care in this respect. But man is but mortal, and in hot weather cider is refreshing. Now cider, especially old cider, is very full of bacteria, some of which have certainly been found in the milk, and always will be, if cider is drunk immediately before or during milking. The rapid souring of the curd previously referred to might be brought about by a little cider finding its way into the milk. For this rapid souring is accompanied with a smell more like that of acetic acid than of lactic acid.

Lastly, as to contaminations from the atmosphere, and this undoubtedly is one source of trouble. It is at the present day almost, if not quite, impossible to say what organisms can or cannot come from the atmosphere. Fortunately, being consulted by dairy farmers in all parts of the country, it soon came to my knowledge that the troubles which were being felt at the cheese school were also being met with in other parts of the country. Thus, a cheese-maker in the Midlands sent a sample of milk giving trouble which I submitted to microscopical and bacteriological examination. In it were found exactly the same organisms as were giving so much trouble at the cheese school, and which I associated throughout with the tainted curd, although as yet there has been no opportunity of proving the assumption correct. Similar results were obtained with milk received from Buckinghamshire, and also from Essex. Inquiries soon brought the information that fermenting curd, and a difficulty in making good cheese, was being found in many places, even by those who were making upon totally different systems. But upon inquiry I was informed that no such difficulty had been met with by the Cheddar cheese-makers in the West of Scotland. It will be known to most of my readers that the season in the West of Scotland was entirely different to that of the West of England.

Now, if a tainted or peculiar condition of milk appears over a large district, or part of the country, and does not appear in another part, and the only difference that we can find between these localities is a climatic difference, are we not justified in assuming that this had something to do with the presence or absence of the taints in the milk? Though this may not be the only possible explanation, as we know little about the geographical distribution of bacteria.

But we have strong grounds in support of this reasoning if we may judge by analogy. It is a well-known fact that certain diseases are produced by bacteria, that these diseases will at times be prevalent over large areas, and for a certain time, while not present in other parts, and that they will disappear as suddenly as they came. We say that there is an epidemic of a disease. Is it not possible that there are epidemics of diseases or taints which affect milk, brought about by bacteria, just as there are epidemics of diseases among men? This, at least, is the only possible explanation which I can find that will satisfactorily account for the facts which have been very briefly stated in this report. Even if further work may prove that it is not a tenable hypothesis, I cannot but think that it will be very serviceable as a working hypothesis for guidance in future investigations. It points, however, to the necessity for this research work being extended, and not confined to one part of the country only. Had it not been for what one may almost call mere accident, I should not have been aware of the prevalence of this trouble amongst cheese-makers generally.

With all these various troubles to contend against, the wonder is that Miss Cannon was able to make cheese of such good quality, and the question arises how was this brought about? A careful examination of

very many of the cheeses has revealed the fact that, of the organisms which caused the various taints, only a few varieties survived in the cheeses, and these only in some few of them. What is the explanation of this fact? It is the same as has been given before and emphasised by me in previous reports, namely, that sufficient acidity was produced in the curd before it was vatted to ensure the destruction of the invading organism. When the cheese was put up with too little acidity, the taint was more or less perceptible in the cheese. On the other hand, if too much acidity were produced, then the cheese, though it would not be a good one, was at least free from any taint.

The Cheeses.—A very large number of cheeses have been most carefully examined in the manner described in my report of last year. The old theory was, that the ripening of cheese is brought about by the presence of a certain bacterium known as the butyric acid bacillus, or *Bacillus Amylobacter*. To quote the words of no less an authority than De Bary, "the butyric acid fermentation is essential to the ripening of cheese." At least two organisms received this name. The organism which was considered the *Bacillus Amylobacter* by the earlier writers is, in my opinion, not this organism at all, but is one form of the *Gidium Lactis* referred to briefly in my report for 1892. I have only found this organism in one single cheese, and never in a good one. I found it this year for the first time in a cheese which was of very inferior make, cracked, and suffering from the cheese fly. In this it was abundant; hence it is quite possible that it may be abundant in many of the foreign cheeses, which have hitherto been mainly the subject of investigation.

Prazmowski, however, has described a *Bacillus Amylobacter* which is entirely different to that of the older writers. And this organism I have found in very many of the cheeses, though not in all. It is seldom present in large numbers, and for one of the *Bacillus Amylobacter* there will be hundreds of other organisms present. It is therefore very evident that for cheese of the description made by Miss Cannon, which may be described as moderately quick ripening cheese, the *Bacillus Amylobacter* plays a very secondary part. What then are the bacteria present in such large numbers? I am not quite prepared to dogmatise upon this point, but the results hitherto obtained all point in one direction, namely, that it is the lactic acid bacillus. In a cheese examined soon after it is made the bacilli are possessed of all the properties which characterise the *Bacillus Acidi Lactici* as obtained from milk, but in course of time they seem to lose these properties, as they grow under different conditions. Thus, if a minute portion of new cheese be placed in some sterile milk, the milk curdles within a couple of days. If we keep the cheese, and from time to time place a little in some sterile milk, it will be seen that the power of curdling the milk is slowly being lost. At last it seems to entirely disappear. Yet place some of this same cheese in some milk from which the air is excluded, and the milk will be curdled. Although for a long time it will be possible to obtain a growth of this lactic acid bacillus on gelatine, yet after a time even this is most difficult, and nothing will grow upon a plate culture. The long exclusion of the organism from the atmosphere appears to change its nature, and causes it to lose its most characteristic property. But the fact remains that it is this lactic acid ferment which has brought about whatever changes have taken place in the cheese, which we describe as "ripening" without exactly knowing what that ripening means.

The deductions which may be drawn from this work are important and conclusive. In the first place it is certain that for the manufacture of the best Cheddar cheese, one and only one organism appears to be necessary, namely, the *Bacillus Acidi Lactici*; all other organisms are unnecessary, and some are detrimental. It is also certain that taints, fermentations, sponginess, a too rapid souring of the curd, or a want of sufficient acidity, while generally promoted by careless manipulation, are all due either to the presence of injurious bacteria, or to the absence of those which are essential for the production of a good cheese. We know further that while, by careful manipulation, the *Bacillus Acidi Lactici* can be encouraged and its growth in sufficient quantity assured, on the other hand the presence of injurious bacteria can be to a large extent prevented by cleanliness. And lastly, while it is not possible to say at present whence come the injurious bacteria, which are occasionally found in milk, yet, by careful manipulation in the manufacture of the cheese, their evil influence may, to a large extent, be counteracted.

The foregoing gives an account of the work carried out in 1893; in addition it may be considered advisable to give a

CONDENSED SUMMARY OF THE THREE YEARS' WORK

carried out at the cheese schools of the Bath and West of England Society:—

RECORDING OBSERVATIONS.

When in the autumn of 1891 I was first asked to make observations on the manufacture of Cheddar cheese, my duty was to "formulate a complete scheme of investigation of the science which underlies the existing practice of the best cheese-makers." Such a scheme, so far as it affected the daily observations and analyses which are needed, was formulated by the end of the 1891 season, and has been subsequently slightly improved upon, so that it would appear to be at present most complete. Moreover, I find that it is applicable with very slight alteration to other methods of Cheddar cheese manufacture, and may be taken as the foundation throughout the country of a systematic series of observations on the processes of cheese-making.

The bacteriological examination, which the further development of the observations required, and the systematic course of study they necessitated, were described by me in the last Report to the Board of Agriculture. I find, however, that each year these will require further development. New methods of investigation and long continued observations will be needed if we are to obtain from these observations the valuable lessons which they bid fair to yield.

Lastly, we shall have to further investigate the chemical changes, and the laws which govern those changes taking place during the ripening of the cheese. This aspect of the investigation is one which has as yet hardly been touched. Not only is it surrounded by many difficulties, but it is a subject to which little attention has hitherto been paid. Even the methods of observation will have to be first thought out.

THE DATA OBTAINED.

All the analytical data of importance hitherto obtained as well as the records of the observations have been published in the journal of the Bath and West of England Society for the past three years. They supply a vast amount of information, which has important bearings upon many subjects other than the mere production of cheese. Thus the record of

the analyses of the milk from three herds feeding upon three distinctly different soils, made every day for seven months of the year, supplies information such as has never before been attainable by those who study the production of milk and the influence of various factors thereon. These records will be continued and made as complete as possible again this year, after which it will be necessary to give more attention to experimental and research work.

Already many experiments have been made, and some research work done, but it has not hitherto been the main object, but rather incidental to the working out of the original scheme with which the observations were started. Fortunately the observations have been so fruitful of results that already we may consider that many aspects of cheese-making, hitherto little if at all understood, have now become clear.

APPARATUS NEEDED FOR THE INVESTIGATION.

It soon became clear that two things were necessary in order to carry out the investigations successfully; one was greater precision in the use of rennet, and the other a method of determining exactly the amount of acid present at each stage of the operation. I therefore arranged to have made for me, accurately graduated, 2 ounce measures divided into 200 parts, as a means of measuring the amount of rennet used. The advantage of these measures was soon observed by the pupils at the school and other cheese-makers, and the demand for them has been a steady and increasing one, while their use is doing away with the careless method of measuring the rennet which hitherto existed. For the acidity, I employed the usual method of the chemical laboratory, which has already been fully described in a previous Report of the Board of Agriculture. This apparatus is now being taken up by cheese-makers in the country, though necessarily very slowly, and can be obtained, complete with the necessary standard solutions, for a small sum. When once the value of this apparatus is fully recognised by cheese-makers, and its use becomes more general, I am certain that many of the difficulties which have hitherto baffled many makers, will disappear.

We see already an answer to the question with which these experiments were first started, namely, is it possible by means of research work to throw any light upon the process of cheese-making which may be of general, and not merely scientific, advantage.

TIME REQUIRED TO MAKE A CHEESE.

Next to ensuring a cheese of good quality, there is no question upon which cheese-makers are more anxious to be enlightened than how to obtain that result as quickly as possible. It makes a very great difference to a cheese-maker if, during a season, it is possible to so promote or hasten on the process of cheese-making that one or two, or even more, hours may be saved each day.

Being most desirous that my experiments and observations should lead to practical results as soon as possible, much attention was paid to this subject, and the result has been somewhat unexpected.

It is generally believed that the time taken to make a cheese depends upon the system adopted, that is to say upon the manipulation of the milk and curd. To a certain extent this is undoubtedly true, but as a result of the observations and experiments, it is now evident that this is only a half truth, and that the reason why some systems are more rapid

than others is really due to the fact that in the rapid system, though unknowingly, the makers secure certain chemical conditions. One of two conditions is essential to the rapid production of a good cheese, the first is, that the milk shall be thoroughly ripe before the cheese-making commences, and the second, that the whey be not drawn from the curd until it has developed a large amount, comparatively speaking, of acidity. It will be well to consider these in order.

THE RIPENESS OF THE MILK.

In the various systems of making Cheddar cheese which have so far been examined, the makers depend upon obtaining the proper ripeness of the milk either by keeping the evening's milk at a certain temperature during the night, so that it shall not fall below a certain temperature by the morning; or else they discard to a large extent the ripening of the evening's milk, and obtain what is the same result by adding whey to the mixed milk before renneting. The object in both cases is the same, namely, to ensure in the milk before adding rennet a sufficient supply of the organism which produces lactic acid, which organism is known as the *Bacillus Acidi Lactici*. Unless a sufficient number of these organisms be present in the milk when the rennet is added, it is certain that the cheese will take a long time to make. Now there is no means of seeing these organisms and counting them, but fortunately we have two methods of determining their presence indirectly. Each one of these organisms produces during its growth to maturity a certain quantity of lactic acid. If therefore we determine the amount of acid produced in the milk, we have an indirect means of determining how many organisms are present, and by continued observation we may discover what proportion of acid represents a sufficient number of organisms to ensure a rapid cheese. This problem has been worked out during the course of the observations, and the result is to prove that when the milk shows an acidity equal to .22 per cent. of lactic acid, it is fully ripe for a good cheese; that where the method of manufacture demands a slow development of acid, then even .21 per cent. of lactic acid if present in the milk is sufficient, but that if the acidity of the milk falls below this point the cheese cannot possibly be made, except slowly. There is another method of estimating the ripeness of the milk, and its fitness for renneting, which is adopted in some parts of the country; it is known as the rennet test. It depends upon the fact that the rapidity with which milk is curdled by rennet, all other conditions being equal, depends upon the amount of acid present in the milk. The manager of the British Dairy Institute, who has had long experience in this test, has made a series of careful observations, side by side with a determination of the acidity of the milk by means of an apparatus similar to that previously mentioned. He informs me that his results entirely confirm the standard here laid down, and in many instances where I have made a comparative trial of the acidity and rennet tests for the ripeness of the milk the results have been identical.

Thus the first essential of success in cheese-making, so far as rapidity of make is concerned, has been conclusively laid down as a result of these observations.

THE ACIDITY OF THE WHEY BEFORE DRAWING-OFF FROM THE CURD.

It has been found that the action of the rennet upon the milk during the process of curdling the milk is to destroy about one-third of the acid present in that milk before the rennet was added, so that the first whey procurable will only show .14 per cent. of acid when the milk showed .21 per cent. All the subsequent operations of the cheese-maker will

have two objects to attain, the first of which is the reproduction and development of acid, and the second the extraction of moisture from the curd.

Should the milk have been properly ripe before the rennet was added then it is seldom difficult to obtain in the whey before the usual time of drawing it off an amount of acid which is equal to if not slightly greater than the amount of acid originally present in the milk. But if the milk was not properly ripe when the rennet was added, then it is at times very difficult to obtain in the whey as much acid as was present in the milk. The observations have proved beyond a doubt that unless this acid is obtained before the whey is drawn it is impossible to rapidly make a cheese, or even to make a cheese within a reasonable time. Thus, the determination of the acidity if it can be carried out daily in the dairy would become the means not only of ensuring sufficient ripeness in the milk, but of ensuring each day a cheese that should take as short a time to make as was compatible with good quality.

THE CONDITIONS ESSENTIAL TO A CHEESE OF GOOD QUALITY.

After the careful examination of the analytical data obtained during the three years observations, as well as of the results of experiments specially made for the purpose, we are justified in stating that so far as can be seen at present the quality of a cheese depends upon three factors.

1. The amount of acid present in the curd when it is put in the press.
 2. The amount of moisture left in the curd when it is put in the press.
 3. The purity of the milk with which the cheese is made.
- Let us now consider these three conditions separately.

1. *The Amount of Acid present in the Curd when it is put in the Press.*

Before treating of this definitely it is well to state that no hard and fast rule can be laid down for this point, because it will depend upon the kind of cheese, or rather the variety of Cheddar cheese made. The qualities which a cheese buyer looks for in a good Cheddar are that it should be mild, fat, nutty, and of good shape. The chief faults met with are that the cheese is not mild, but has some sharp, bitter, or unpleasant taste; that it cuts dry and shows no fat upon the cheese knife, or on the other hand appears very fat but is only found to be too soft; that the flavour is acid, or there is an after-taste left in the mouth which is not pleasant; the cheese does not cut evenly, but shows holes or eyes, or it is dry and crumbly. All these are considered faults, but it will depend to a certain extent upon the time which has elapsed since the cheese was made how far these faults may be present or not. Again the good qualities required will not be present in all cheeses at the same time after they are made. Hence there are at least two or three varieties of Cheddar cheese. 1st, those which take but a short time to arrive at their best state of maturity; 2nd, those which take a long time to arrive at this state; and 3rd, those which take an intermediate time.

The observations hitherto made point to this fact, that the keeping quality of a cheese diminishes as the amount of acid in the curd increases, and *vice versa*. Hence, for a very rapidly ripening cheese it is essential that a high proportion of acid be developed in the curd before it is vatted. Up to the present the observations have only partly answered the question, "what should this acidity be?" for it would seem likely that it may not be the same for every month of the year, nor upon every farm. But, speaking generally, there is strong ground for the following limits. The acidity in the curd as shown by the acidity of the liquid

coming from the press should not fall below .8 per cent. for a slow ripening cheese, and should reach 1.00 per cent. for a moderately quick ripening cheese. Should it reach 1.2 per cent. the cheese will be too acid.

If the cheese-maker were in the habit of picking out his cheeses and sending them to market as they were ripe it would not seriously matter even should he have some that contained more acidity than others when put in the press; but this is not the custom; the buyer goes occasionally and purchases the whole make up to a certain date. It is therefore important that all the cheeses should be made with as nearly as possible the same amount of acid in the curd when they are put away, and unless this is attended to there will be no uniformity in the make of that dairy. Here again the acidity test is of the utmost importance. It enables a careful maker to test each day the acidity of the curd, not directly but indirectly, and to put his cheese away with as much regularity as possible, and with far more regularity than would be possible without the test.

If the cheese is put away with too little acidity, then it is liable to heave and lose shape as well as to be very uneven in texture. Probably there is no error so common among cheese makers generally as that of putting away the curd before sufficient acid has been formed. The reasons for this are many. The chief one undoubtedly is the inability which has hitherto existed for makers to test the acidity of their products, the want of any standard to guide them, and only empirical rules to help them in their cheese-making, the observing of which necessitated in many instances the possession of natural gifts, such as a good sense of touch, smell, or taste, not always possessed by the cheese-maker. Uniformity and success will never be secured to the many until these empirical methods of testing have been put aside, and some more accurate and reliable test substituted.

2. *The Amount of Moisture.*

The second requisite of a good cheese is that the curd should not be put away while it contains too much water. The long series of observations has enabled me to lay down a general rule upon this point which every subsequent experiment has so far shown to be in the main accurate. The amount of water which should be present in the curd when it is vatted should be 40 per cent.; if the amount of water is less than this the cheese is likely to be hard. If there is more, then there will be a tendency to softness. The limits beyond which it seems likely that the cheese-maker may not go are very narrow, and appear so far as can be ascertained at present to be 38 per cent. on the one hand and 42 per cent. on the other. I have proved that as a rule a cheese containing less than 38 per cent. of water in the curd when vatted is too hard and dry.

3. *The Purity of the Milk.*

This subject has already been touched upon in the last Report issued by the Board of Agriculture. But it appears to be likely to form the main subject of investigation in the future. Apart from those conditions which have been treated in the preceding pages, all the difficulty which the cheese-maker has to contend against would seem to arise from a want of purity in the milk *when it comes into the dairy*. These impurities give rise to what are known as taints, and these taints are not only numerous but they have some peculiarities which make them

most difficult to investigate. They are seldom constant, they appear to vary with different seasons and different localities, and they are more liable to arise at some parts of the season than at others.

THE ORIGIN OF TAINTS.

So far as the bacteriological work has proceeded, it points conclusively to this fact that each taint is the result of a definite micro-organism. The sources of these organisms were pointed out in a general way in my last report. The work which remains to be done is to find out for certain the definite organism which produces each taint. Then to discover the source of that organism, and lastly to devise a means of overcoming the difficulty which it gives rise to, and of precluding it altogether from the milk. The observations have now reached the stage in which this becomes the most important work to be done. Unfortunately it is of necessity very slow, difficult, and unremunerative work; unremunerative in the sense that a vast amount of work may be done and yet very little result shown for some years. When, however, a result is obtained, it is well worth the time and labour and money spent upon it, and will give the cheese-maker information which will be of benefit, not merely to the man of one generation, but to cheese-makers for all time.

The more however this study and work proceeds the more certain is the evidence that the taints most frequently present in the milk, and which are most to be feared from the evil influence they have upon the cheese, arise mainly from three causes, all too little attended to at the present day. First, want of cleanliness in the teats and udders of the cows when they are milked. Secondly, want of cleanliness in the hands of the milkers, and especially that habit of milking with wet hands, which is almost certain to cause more dirt to fall into the milk than would be the case if the hands were dry; and lastly, want of cleanliness in the vessels used. These are the main causes, but there are many subsidiary ones, and perhaps the most important is the condition of the streams and watering places at which the cattle drink. If there is one subject which has impressed itself upon my attention more than any other, it is the frequency with which I find in the milk micro-organisms characteristic of water, and especially of polluted water. The pollution of our streams has attracted the attention of those interested in the sanitary condition of the people, but in my opinion it is equally deserving of attention on the part of all those who are interested in the welfare of the dairy industry of this country.

OVERCOMING TAINTS.

The results of the observations, supported by definite experiments, has proved that many of the micro-organisms which enter milk, indeed the majority, are destroyed by the development of that acidity which it has been shown is essential to the production of a good cheese. Those organisms which produce permanent taints are those which the acid does not destroy. But it is found that some of these taint-producing organisms though not destroyed by the amount of acid formed during the process of cheese-making are nevertheless destroyed toward the end of the manufacture *if sufficient acid be produced*, so that by the time 1 per cent. of acid has been produced in the curd their evil influence ceases, and the curd

during its ripening loses to a large extent even the taint which it contained when vatted, instead of this taint being further augmented.

Unfortunately, the very taints which are destroyed by the production of acid are those which render it most difficult to discover, by the ordinary methods which the cheese-maker has of judging the acidity of the curd, whether this acid has been produced or not. Some organisms indeed appear to retard the proper development of acidity, so that it is most difficult even to obtain the necessary acid even when we are able to judge if it has been produced or not. Here again the direct determination of the acid produced has been of immense value, and has shown beyond a doubt that the cheese-maker of the future, who determines to make a uniform quality of good cheese will have to discard the methods of empiricism which have hitherto prevailed for the more systematic and precise method, and the more exact standard which these observations and experiments have been the means of obtaining. The information thus obtained will be of advantage, not merely to the maker of Cheddar cheese, but to all cheese-makers, and thus the observations, originally started in Somerset, and confined to the Cheddar system of making cheese, bid fair to throw light upon all systems of cheese-making and to prove of an even wider value than was at first anticipated.

BOARD OF AGRICULTURE.

LEAFLETS

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IN THE YEAR

1893.

Presented to both Houses of Parliament by Command of Her Majesty.



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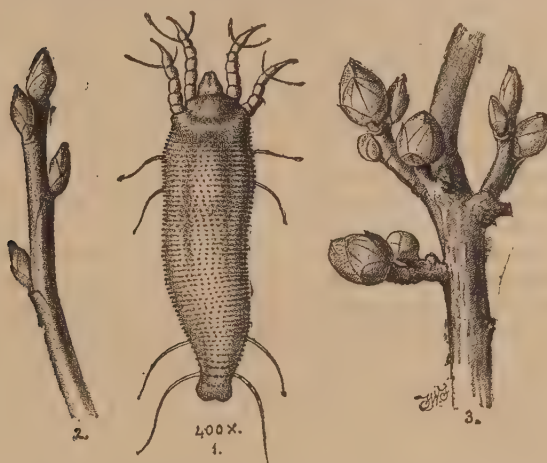
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BOARD OF AGRICULTURE.

The Black Currant Mite (*Phytoptus ribis*).



1. The *Phytoptus* magnified 400 times. 2. A normal currant twig.
3. Currant twig with infested buds.

Complaints of the prevalence of this mite in the black currant plantations have come recently from many parts of the country. It has increased rapidly in the past four years, having been transmitted from one place to another with cuttings and young black currant bushes. In some plantations this infestation has spread so fast that at least 50 per cent. of the buds are full of mites. A black currant plantation of 20 acres in extent in Kent was visited lately, and it was found that almost every bud was distorted from the action of the mites within it. The mites were feeding upon the contents of the buds, as was seen plainly when a section was placed under the lens of a microscope. The effect of this will be that these buds will be abortive, or at least fruitless. Stunted leaves may be put forth which will in all probability fall off in the early summer, but no blossoms can be formed from these infested buds. There were no eggs in the infested buds that were thus examined. Examinations made in the spring of last year showed that there were many eggs in the infested buds, and mites in different stages of growth. Mites were also detected in the

act of travelling from one bud to another. At all events, they were upon the spaces of the shoots between the buds, so that it may be inferred that they were moving on in search of food. They have remarkable locomotive power considering their minuteness, and get across the field of the microscope so quickly that it is difficult to examine them while alive.

LIFE HISTORY.

The *Phytoptus ribis* belongs to the sub-family Phytoptidæ, gall-mites, of the order Acarina, mites, according to Andrew Murray's classification, as given in his useful work on the Aptera, written in 1877. There are many species of these gall-mites. One attacks lime trees; another much injures the pear crop. The apple, hornbeam, yew, alder, willow, maple, plum, birch, peach, and other trees have their respective species. The vine also is injured by one species, and it has been recently discovered that the raspberry is attacked by one of these creatures, which has been styled *Phytoptus rubi*.

The *Phytoptus ribis*, like all the species of Phytoptidæ, has only four legs. These are six-jointed and furnished with bristles upon their last joints, and are prolonged into a pointed claw having underneath slightly toothed hooks. The mite has a snout for sucking the juices of the buds. At the tail is a pair of long stout bristles, and there are three other pairs of shorter bristles upon its body, one pair near the long tail bristles, and two pairs near the head (Fig. 1). These seem to help locomotion or to steady the creature in its movements, which are wonderfully rapid. In colour it is light gray. Its body is thickly covered with spots or striæ. It is indistinguishable with the naked eye, and nothing can be made of it with the strongest pocket lens.

Eggs are found in the buds during the spring. They have been noticed as early as the 10th of February. They are rather more round than ovoid in their early stages, colourless, and abundant. It is not known when egg-laying ceases, but probably as soon as the buds have expanded, or, in cases of bad infestation, when the buds have shrivelled up and the mites are ousted from their homes. They stray about upon the leaves and the shoots, and as they make their peculiar gold-coloured galls upon the young and tender twigs, as well as upon the sheathing scales, or embryonic leaves of the buds, it is believed that they live upon these, if not upon the leaves also, until the buds are again formed. In January many deserted galls were noticed upon young shoots, and less frequently upon older shoots; they still retained their golden hue in some cases, though many had become blackened.

Some infested buds were examined in November, 1892, and the mites were found under the first sheathing scales. During the hard frost of the first week in January, 1893, the mites were found either under the third sheathing scale, or quite within the centre of the whorl. Though the thermometer registered from 20 to 29 degrees (Fahr.) of frost during the week, the mites were most active and feeding, as taken from buds hard frozen.

MODES OF PREVENTION AND REMEDIES.

When black currant bushes are planted they should be carefully examined for *Phytopti*. If there are any signs of unnaturally swollen buds the young bush should not be planted. In taking cuttings in the late autumn those from infested bushes must be rejected absolutely. Infestation is easily seen then by the abnormal buds.

Infested bushes should be cut very hard, and every particle of the cuttings carried away and burnt. In the spring the bushes should be syringed well all over with a solution composed of 1 ounce of Paris Green to from 11 to 12 gallons of water, with 2 ounces of fine wheat flour added, or 2 ounces of soft soap, to make the solution adhere better.

The Éclair "Knapsack," pump may be employed for this, and it must be impressed upon the labourers to direct the spray over every part of the currant bushes.

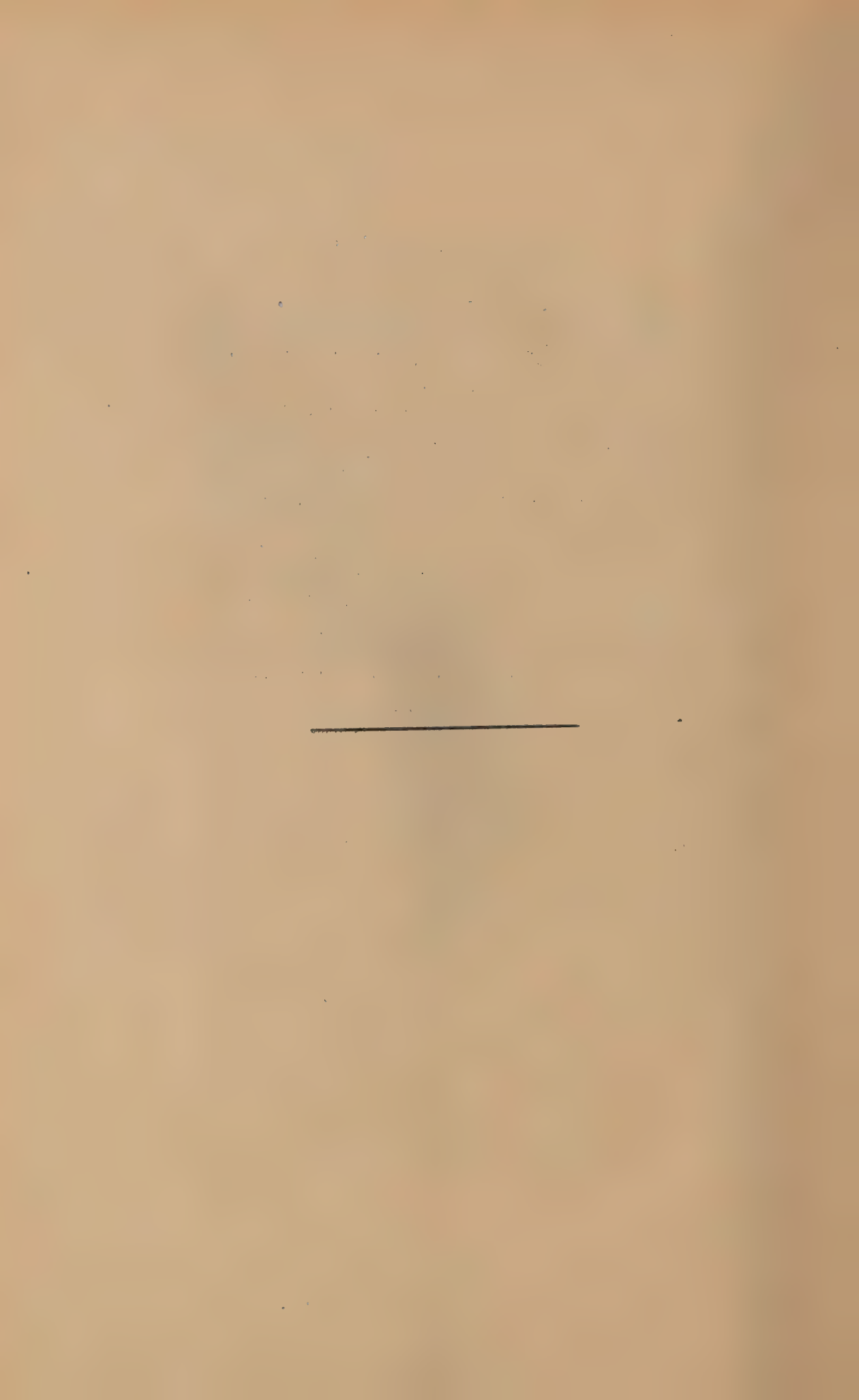
Another solution for spraying, to be used in a similar manner, may be composed of 5 to 6 lbs. of soft soap, mixed with the extract of 8 or 9 lbs. of quassia chips, to 100 gallons of water, 3 quarts of carbolic acid might be substituted for the quassia.

Spraying with these solutions should be repeated in the autumn before the weather becomes cold, and just after the leaves have fallen, if possible. This will economise liquid and labour, and will affect the mites before they get into the buds.

Directly the leaves have fallen it would be desirable to put hot lime round the stocks and dig it in at once, so as to bury the leaves with any mites that may be upon them, and thus prevent any chance of their getting up the stems.

In very bad cases it would pay to cut the bushes close to the ground, and in the autumn and early spring to syringe the stocks with the Paris Green solution, or the carbolic acid solution. This would entail the loss of one year's crop only.

Board of Agriculture, London, S.W.,
February, 1893.



BOARD OF AGRICULTURE.

Farmers and the Income Tax.

The Board of Agriculture have reason to believe, from statements which have recently been made to them, that persons occupying lands, for the purpose of husbandry only, are not fully aware of their statutory and other rights in regard to the assessments made upon them to income tax. The Board desire, therefore, to give publicity to the following memorandum, compiled under the authority of the Board of Inland Revenue, which sets out fully the principles upon which those assessments are originally made, and the various rights of appeal and relief which exist. The Board call special attention to the fact that by the exercise of the option (referred to in paragraph No. 4 of the annexed memorandum) of being dealt with according to the rules of Schedule D, of the Income Tax Acts, occupiers of land for the purpose of husbandry only who have made no profits therefrom on the average of the three years preceding the year of assessment, or whose aggregate income from every source does not amount to £50*l.* a year, need not be assessed to income tax at all, provided, of course, that the returns they make on the form which will be supplied to them by the Surveyor of Taxes are regarded as satisfactory by the Commissioners of Taxes. In such cases no appeal to the Commissioners is requisite, as no assessment is made, and no question arises involving payment and subsequent repayment of the tax.

In the year 1890-91 the assessments under Schedule D, in respect of profits from the occupation of lands, the occupiers of which availed themselves of this option, amounted to 6,826*l.*, whereas the assessments which would have been made under Schedule B, on the yearly rent or value of such lands would have amounted to 55,977*l.* It was only, however, in 116 cases that the option was exercised, and the Board cannot doubt that if the provision of the law in this matter were more widely known it would be very much more freely resorted to.

Even in cases in which assessments are made under Schedule B, the law provides ample means of obtaining relief if at the end of the year the farmer has made no profits, or if his profits have fallen short of the sum assessed, but by reason of the fact that the Commissioners of Taxes require the production of accounts before they issue a certificate for repayment, the process is necessarily more troublesome to the

farmer. It is for this reason that the making of a return for assessment under Schedule D. would in many cases be a simpler and more advantageous proceeding.

In any case of difficulty arising under any of the heads mentioned in the memorandum, the Board recommend that application for advice and assistance should be at once made to the local Surveyor of Taxes, or to the Board of Inland Revenue, Somerset House, London, W.C.

4, WHITEHALL PLACE, S.W., HERBERT GARDNER,
April 1893. President of the Board of Agriculture.

MEMORANDUM.

Income Tax. Schedules A. and B. On Lands used for the purposes of Husbandry.

1. Income tax is chargeable under Schedule A. in respect of the ownership, and under Schedule B. in respect of the profits derived from the occupation of lands.

2. For income tax purposes the income arising from the occupation of lands for the purposes of husbandry is deemed to be, in England and Wales, *one half* of the full yearly rent or annual value, including tithe rentcharge, if any, and, in Scotland, *one third* of the full yearly rent or annual value.

3. "Annual value" means the rack rent at which lands are worth to be let by the year, that is, the yearly rent which a tenant might reasonably be expected, taking one year with another, to pay for the lands, if the tenant undertook to pay all usual tenant's rates and taxes and if the landlord undertook to bear the cost of repairs and the other expenses necessary to maintain the property in a state to command that rent.

4. Any person occupying lands for the purpose of husbandry only may elect to be assessed under Schedule D. on the average profits of the three preceding years instead of being assessed under Schedule B. on the yearly rent or value. The election of such person to be assessed under Schedule D. must be signified by notice in writing addressed to the Surveyor of Taxes for the district on or before the 5th of June in each year. In Scotland the time within which notice must be given to the Surveyor is extended to 5th August.

5. Meetings of the Commissioners of Taxes are held annually between the 29th of September and the 25th of December for the purpose of hearing appeals under Schedules A. and B. and D. In England and Wales intimation of the dates of these meetings is given by notice affixed to church and chapel doors, and any person aggrieved by the assessments made upon him may appeal, on giving 10 days' notice of his intention either to the local assessor or to the district Surveyor of Taxes. In Scotland notice of intention to appeal should be sent to the Surveyor of Taxes for the district within 10 days after receipt of the notice of assessment, and thereafter intimation will be given of the place and date of meeting of the Commissioners.

6. The Commissioners also hold meetings after the expiration of the year of assessment for the purpose of hearing appeals by persons who

FARMERS AND THE INCOME TAX.

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have paid income tax in the previous year under Schedules B. or D. on amounts in excess of the actual profits made in that year.

7. Persons who desire to appeal with a view to obtain repayment on the ground of loss or diminution of profits must apply to the Surveyor of Taxes within six months from the 5th of April for information as to the time and place of meeting of the Commissioners.

8. Persons who have sustained a loss by farming operations may obtain repayment of the tax paid under Schedules B. or D. and also of a proportionate amount of the tax paid in respect of their incomes (if any) derived from sources other than from the occupation of land.

9. The following printed form of account of profit and loss for the use of farmers has been provided by the Commissioners of Inland Revenue, and may be obtained on application to any Surveyor of Taxes.

No. 79D. Farmers' Appeals.

INCOME TAX.

Parish of _____

County of _____

STATEMENT OF PAYMENTS and RECEIPTS in respect of the occupation of LANDS for the purposes of HUSBANDRY for the year ending _____ 18____. No. of Acres—
Arable.
Pasture.

PAYMENTS:—	£. s. d.	RECEIPTS:—	£. s. d.
Live stock bought	-	Live Stock and Wool sold	-
Corn and Seeds bought for seed	-	Corn and Seeds sold	-
Feeding Stuff, Oil Cake, and	-	Dairy Produce and Poultry sold	-
Manure bought	-	Other Produce, including Hay,	-
Rent and Tithes	-	Straw, or Roots where sold	-
Rates, Taxes, and Insurance of	-	Labour, Stock, Implements, &c.,	-
Farm Stock	-	hired out	-
Labour on the Farm	-	OTHER RECEIPTS, viz.:	-
Tradesmen's accounts for Goods	-	Value of Farm Produce used by	-
supplied or work done upon	-	Household	-
the Farm	-		-
Sundries	-		-
	£		£

Form of Declaration to be filled up and signed.

I solemnly and sincerely declare that the amount of live and dead stock and produce upon my holding on the _____ day of _____ 18____, did not differ materially for the purposes of this account from the average amount in hand on the corresponding day of previous years [† except in the particulars stated below, which are true to the best of my knowledge and belief].

* Name the day to which accounts are made up. † Strike out the words in brackets if the amount is the average one.

Particulars of difference referred to above.

Description of Stock and Produce.	Increase.	Decrease.

Signature _____

Postal Address _____

Date _____ 189 .

10. The Commissioners of Inland Revenue have instructed their officers not to object to the admission of farming accounts made up annually from Michaelmas Day instead of from Lady Day.

11. Any person whose total income from all sources is proved to be less than 150*l.* a year is exempt from the payment of Income Tax. Where the total income amounts to 150*l.* but is less than 400*l.* the person is entitled to claim an abatement of duty on 120*l.*

12. *Remission of Rent.*—Where temporary abatements or remissions of rent have been allowed, a reduction or repayment of duty may be

claimed in respect of the amount remitted for each complete year ending on the 5th of April. This allowance may be claimed under both Schedules (A by the landlord, B by the tenant) on a special form of claim which will be supplied by the Surveyor of Taxes. When the remission has the effect of bringing the total income of the tenant below 150% the whole of the duty paid or payable under Schedule B will be repaid or allowed to the tenant.

13. Further information on any of the points mentioned in this memorandum may be obtained from the Surveyor of Taxes for the district, who will take steps to afford proper facilities to all persons who desire to appeal with the object of obtaining relief from or the repayment of Income Tax.

BOARD OF AGRICULTURE.

Cultivation of Osiers.

It has been represented to the Board of Agriculture that it would be useful that they should obtain and publish some information respecting the cultivation of Osiers, with a view to direct the attention of agriculturists and others to a special industry for which there would appear to be some room for development in certain parts of this country. The Board have, therefore, collected certain particulars, and have obtained a report by one of their Inspectors—Mr. W. C. Little, of Stags Holt, March, who was assisted in his inquiries by Mr. J. Brown, of Wisbech—as to the conditions under which Osier growing is now pursued in the Fen districts, from which the following notes have been compiled.

There are no official records of the quantity of osiers imported into this country, but it has been estimated that some thousands of tons are received from abroad annually. There is also said to be a large and increasing importation of baskets. The number of baskets required for the fruit industry alone is considerable, and it must increase with the extension of fruit cultivation. Formerly the fruit was generally packed in baskets made of red or unpeeled osiers, but white osier baskets are almost invariably used now.

Osier willows are grown in nearly every country in Europe. Their cultivation has received special attention in France, Belgium, Holland, parts of Germany, and South Russia.

In France, osiers occupy large areas in the valleys of the Aisne, Oise, Loire, Gironde, and on the banks of the Dordogne and Rhone. The basket osier (*Salix viminalis*) is largely grown in the departments of Aisne and Ardennes.

The area under osiers in Belgium, according to the latest official returns, amounts to 11,036 acres; the larger portion of

this surface is in the provinces of Antwerp and East Flanders which have 3,780 and 2,811 acres respectively.

In Bavaria great efforts have been made to improve the cultivation of osiers, and the area devoted to osier holts in that country is steadily increasing.

OSIER GROWING IN THE FEN COUNTRY.

The term Osier is popularly used as comprehending all the trees or shrubs of the *Salix* genus, which are cultivated as a crop to be converted by the basket-maker and similar craftsmen into various articles which are known as wicker-work. The genus *Salix* includes willows, salallows, and osiers. Most of the kinds grown for a crop in the Fen district are, it is stated, really willows, and not osiers. At any rate, while growers use the term in a collective sense, they limit the term when distinguishing sorts of rods to a coarse-growing, soft-wooded species, which peels indifferently, and is only grown in limited quantities for a particular purpose.

Osiers are grown in enclosed plantations, which are locally known as holts. The produce of the osier holt is known commercially as "rods."

Green rods are fresh cut and unpeeled.

Brown rods are those which have been left to dry in their skins.

White rods are those which have had the bark removed or peeled.

Buff rods are produced by boiling brown rods and then peeling them; but the colour thus produced is imitated by dyeing.

In the Fen district the growth of osiers is chiefly carried on in unembanked river valleys, which are subject to flooding. A variety of circumstances contribute, perhaps, to this situation being almost universally selected. It is not merely that this is the natural *habitat* of the genus, and that the soil is suitable, but the convenience of having close at hand water carriage for a bulky and heavy crop, which must be for the most part removed in a green state, has no doubt tended to restrict the growth of osiers almost entirely to the borders of rivers. An additional reason for the selection of such sites is, that the periodical winter floods bring down from the uplands a considerable quantity of soil which acts as a fertiliser and is obtained at a comparatively cheap rate. Floods, however, are occasionally the cause of considerable injury to the holts. An ice flood cuts the rods and seriously damages them. Sheet ice settling down on the holt will entirely destroy a crop, and a spring flood, which entirely covers the young shoots, will kill them; but freshets, which disappear quickly and which do not rise above the tops of the rods, do no harm.

The area of osier holts in the district in question has been approximately estimated as follows:—

In the OUSE Valley, between St. Ives (Hunts) and Denver (Norfolk)	- 190 acres.
In the CAM Valley, near Cambridge and Ely	108 „
In the NENE Valley, in the neighbourhood of Peterboro	- 60 „
In the WELLAND Valley, around Spalding and Crowland	- 130 „

But these estimates exclude considerable areas above St. Ives, Peterboro, and Cambridge.

Ely and Earith are centres of a considerable growth of osiers, of rod peeling, and also of basket-making.

There can be no doubt, that the extent of osier holts in the Fen district is now much less than it was; but at the present moment there is some evidence of increased interest in the subject and greater attention to the business. The industry is apparently becoming more of a speciality, and basket-makers are planting holts in some instances to supply their own requirements.

The Cultivation of the Osier.

The most suitable soil for the growth of osiers is a deep, rich, moist, alluvial soil. Any good clay may be planted if sufficiently moist. Peat moor and hot gravels are absolutely unsuitable. Though water is requisite, a holt will not thrive in stagnant water.

The site of a holt having been selected, the land must be thoroughly cleaned during the summer before planting, and it may be worth while to give it a complete summer fallow. Before the winter sets in it must be thoroughly stirred either by digging or ploughing to a depth of 14 or 16 inches.

If the soil is not naturally rich, it should be manured, and soot is said to be a good preparation for the crop.

Planting should be done in February or March. The sets are cut from wood of two years' growth—they should be 16 or 18 inches long, and about 10 inches of the set should be in the ground. During the spring and early summer the spaces between the rows must be kept clean by hoeing and forking. The cleaning must be completed before the middle of June, or the osiers will be injured. The cost of cleaning is variously estimated at from 1*l.* to 2*l.* per acre per annum for the first two years. After that time the expense of cleaning is much less, as the dense and rapid growth of the osiers stifles and smothers all other vegetation. It may be mentioned in passing that the young shoots from an established stock will make a growth of 18 inches in the course of a single week.

Under the most favourable circumstances the newly-planted holt will be at maturity in three years, but as a general rule four or five years must elapse before its full development.

A holt properly planted, kept clean, regularly filled up, and well managed will last from 10 to 15 years, the duration depending upon the sorts planted and various circumstances which affect the several kinds of osiers in different ways.

The willows and osiers usually grown in the Fen district are known locally by names indicative either of some characteristic of the tree or of the country from which it has come. The favourite sorts are :—

Glibskins.—In some situations this kind is particularly liable to “scab,” a disease to which reference is made later on.

Black Mauls.—Small, but hard and tough, and consequently valuable.

Green Sucklings.—A heavy cropper, but not liked by the basket-maker.

Welsh Osier.—This has a very bitter rind, which is disagreeable to all animals, and it is planted on the outsides of holts.

Black Hollanders; Mottled Spaniards; Cane Osiers; and Dutch Red.

A certain proportion of the coarse-growing osiers may be grown, as the basket-makers require some strong stout rods for uprights; where they are not grown their place is supplied by leaving a portion of the holt to grow for two or three years.

The cost of preparing and planting an osier holt is variously estimated at from 14*l.* to 23*l.* an acre—the amount depending upon whether the land is trenched or ploughed and upon the preparatory cleaning which may be necessary.

Taking an outside estimate, the items of expenditure would be as follows :—

	£	s.	d.	
Fallowing - - -	4	0	0	an acre.
Trenching - - -	8	0	0	„
Sets, 20,000 at 10s. per 1,000 -	10	0	0	„
Planting - - -	1	0	0	„
	£23	0	0	

This is without any allowance for manure.

On the other hand, if fallowing is not required and ploughing is resorted to, the cost would not exceed 14*l.* an acre.

The osiers attain to their full growth by the middle of September, by which time the rods on established plants will

have made a growth of 6 to 7 feet. Osiers and salallows will make an average growth of 8 or 9 feet, and, occasionally, as much as 13 feet, in a single season.

Cutting the rods commences with the new year, if the holts are accessible. Sometimes, however, floods or other circumstances prevent the early cutting, and the process has to be postponed. It is, however, considered very desirable to cut before the sap rises, as the stocks bleed, and the new growth is less vigorous, if the sap has risen before cutting. The rods are cut with a sharp hook, somewhat like a strong reaping hook; a clean cut, without splitting the rod, is essentially necessary. As the rods are cut, they are tied up by willow bands into bundles or "bunches." Each bunch has a girth of 45 inches (an English ell) at a distance of 1 foot from the butt end of the bunch. The "ell band" is secured in its place by attachment to another band, called the "breech band," round the butt end. A third band is placed higher up. The cutting is paid for by the score bunches, the ordinary rate being 2s. 6d. An average crop will be about 150 bunches, and a heavy crop will reach to 250. A green bunch will weigh 6 stones. The weight of rods per acre will range from 5 to 10 tons.

It has already been observed that it is a great advantage, if this bulky and heavy crop can be removed by water carriage.

If the rods are to be peeled, they are conveyed to the peeling yard and placed with their butt ends in water, where they remain until the rise of sap makes the peel separate easily from the stick. Sometimes after the rods are cut, they will dry from exposure to the air, and in that case they are put in a heap, watered, covered up, and sweated, or "couched" as it is called. If the rods in the pits get too advanced in growth before peeling, the difficulty of peeling is increased, and the rods are damaged. The work of peeling begins as soon as any of the rods are fit. It is chiefly done by women, who draw the rods through a "break" or "cleave," which divides the bark into strips, which are removed by the hand. The children of the peelers assist in this latter operation.

As the rods are peeled, they are sorted into three grades, "large," "Middlesboro," and "small" rods, according to their size and length. They are then exposed to the air for a short time on racks, or reared against hedges or walls. When dry they are tied up in bunches of the same dimensions as before, and stored away in sheds.

Rods which are adapted for the purpose, and which are, in consequence, most valuable, are subjected to another process known as "skeining." This is the longitudinal division of the rod by splitting it into equal parts. The thick end of the rod is nicked with a knife, dividing the circle into three sectors. A triple wedge is then inserted, and the rod is drawn rapidly through the hand. The split canes are then drawn twice under a knife fixed to a gauge to remove the outer ring and inner

angle, and the cane is reduced to a flat thin strip of equal thickness. These "skeins" are used for weaving sieve and riddle bottoms, and for making basket handles and similar articles. Green rods are "skeined" by the same process, for making eel grigs, hives, &c.

Hitherto the ordinary practice of most growers has been to sell the rods when cut to persons who peel, sort, and store them. The peeler requires a considerable supply of labour at a particular period, buildings in which to store the rods, and capital to enable him to hold the stock until it is wanted.

The cost of peeling is as follows. Women are paid 5*d.* per green bunch. The rods are brought to them by men, who sort, dry, tie, and store the bunches. Two men will attend to 10 or 12 peelers, and they are paid 2*d.* per green bunch. A woman will peel from 3 to 3½ bunches in a day. The peeling process extends over eight or 10 weeks.

The per-centage and weight of each class of rods produced in a holt has been estimated as follows:—

Large rods,	35 per cent.	56 lbs. per bunch.
Middle,	40 "	40-45 lbs. per bunch.
Small,	25 "	28 lbs. per bunch.

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Average weight per bunch about 43½ lbs.

It takes 3 bunches of green rods to produce 2 bunches of peeled rods, and the ratio of white rods to green rods will be, approximately, 54½ per cent. in weight.

A large proportion of the osiers grown are sold by the growers in a green state. In the Cambridge district it has become usual to sell by auction at so much per acre, the purchaser cutting the crop and carrying it away. Basket-makers frequently contract with growers to take their green rods at a fixed price for a series of five, seven, or even fourteen years. The most common plan is for the grower to cut and sell green on the spot at the market price of the day. This price has of late years ranged from 1*s.* 6*d.* to 2*s.* 6*d.* per bunch, and, at the present time, the price is 2*s.* for good rods. Some of the larger growers peel and store the rods, and sell them when there is a brisk demand. Some, and an increasing number, combine the business of growing with that of manufacturing.

White rods are now generally sold by the ton, and the present price is about 18*l.*

It will be interesting to compare the relative returns to the grower who sells the raw material and to the intermediary who prepares that material for the manufacturer. Taking the figures and prices given previously as a basis, it would appear that a grower who sells his rods green would receive for an average

crop at present prices 15*l.* an acre. A grower who peels his rods would receive for the same crop at present prices 34*l.* 19*s.* 1*d.*

The details of the calculation are as follows:—

Average crop 150 bunches.

A. GROWER WHO SELLS GREEN.

	£	s.	d.
150 green bunches at 2 <i>s.</i>	-	-	15 0 0

B. GROWER WHO PEELS.

150 green bunches yield 100 bunches of white rods, average weight per bunch 43½ lbs. = 1·942 tons at 18 <i>l.</i>			
per ton	-	-	34 19 1

Difference in gross returns	-	-	19 19 1
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The cost of peeling, sorting, and storing has been stated as 7*d.* per green bunch.

150 bunches at 7 <i>d.</i>	-	-	4 7 6
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Add for carriage from holt to peeling yard 1 <i>d.</i> per bunch	-	-	0 12 6
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Cost of peeling, &c.	-	-	5 0 0
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This leaves 14*l.* 19*s.* 1*d.* to pay the middleman for his outlay of capital and risks of trade. It would seem, then, that at current prices the value of the crop is divided pretty equally between the grower and the middleman, and that, as usual, the producer of the raw material gets very little in proportion to his original outlay unless he prepares his crop for the artificer.

Of course, in the fluctuation of prices the circumstances are sometimes less favourable to the man who does the intermediary work of dressing the raw material.

If the price of green bunches is 2*s.* 6*d.* when the price of rods is no more than 18*l.*, the margin between gross receipts of the two is reduced by 3*l.* 15*s.*, and if the minimum prices of green rods and white rods be taken the case is very much altered.

	£	s.	d.	£	s.	d.
150 green bunches at 1 <i>s.</i> 6 <i>d.</i>	-	-	-	11	5	0
1·942 tons of white rods at 10 <i>l.</i>						
per ton	-	-	-	19	8	4
Expenses of peeling and carriage	-	-	-	5	0	0
				14	8	4
Difference	-	-	-	3	3	4

It may, perhaps, be taken for granted that on the average the dresser or finisher has a good margin between the current price of the raw material and that of the prepared goods, and that an osier grower who has conveniently situated and suitable premises, where a sufficient supply of labour can be found, has a great advantage over one who has no choice but to sell his rods as he cuts them, because he can get the middleman's profit.

Among other causes of the alleged decline in the osier industry, it has been said that cane is now largely used in the place of wicker-work. Boxes have taken the place of hampers for the transport of fish. Barrels are much used for potatoes, and iron scuttles and sieves are more common than they were.

There is also said to be some difficulty in obtaining an adequate supply of labour at the particular period when the peeling must be done. If that process is not completed before midsummer the quality of the rods is seriously deteriorated.

A grower states it as his own deliberate opinion that "a holt "planted in a suitable site, well planted, cleaned, and cared for, "filled up and replanted when necessary, has always paid its way, and where the circumstances allow of peeling the rods a "very good result has been obtained."

Insect and other Enemies.

The "green fly," a species of aphid, allied to the pea aphid, does considerable damage to the osier in certain seasons. If the plants are much affected the tender shoot at the top is killed and the growth is stunted, lateral shoots are thrown out making the rods "snaggy," and so injuring the sale. Some kinds are more affected than others.

The "black smother fly," another of the aphid family, in certain seasons also injures the rods in the same way as the green fly. The tops of the rods are completely covered with them, the growth of the osiers is stopped and the crop injured. This aphid has a preference for Glibskins, white new kinds, and all rods with a sweet skin.

The "scab" is a disease of the bark: the effects of an injury made by an insect in the early growth. The injury shows itself in the form of a scab or bad place in the rod, going through the bark and some way into the wood, at these places the rod will break when being peeled, or if left brown will break when being worked, therefore if a crop is much affected it is a very great loss to the grower.

The larvæ of some moths and beetles, which are wood borers, are sometimes found in the heads and in the rods themselves when left for two year olds, viz., the Goat Moth, Leopard Moth, Musk Beetle, and the Long-horned Beetle. The larva of the Goat

Moth, however, requires two or three years to mature, and the moth almost always chooses trees of larger growth.

A great enemy of the osier is a small round beetle, the willow beetle (*Phratora vitellinæ*), which bites the young rods close to the head so severely that they break down with their own weight and come to nothing.

The beetle is rather more than a sixth of an inch in length. It is somewhat variable in colour, from blue to green, with metallic lustre, having faint spots upon the wing-cases. The body beneath is of a reddish hue, the antennæ are black. It is most tenacious of life, and difficult to kill with water and pungent and poisonous solutions and fumes. It comes forth in May from its winter retreats in the earth, in rubbish, under the bark of trees, in the chinks and crannies of buildings, posts, and rails. Fences, especially fences made of "brush" woven between stakes, form admirable shelters for it. In short, any refuge near the willow beds seems to be suitable to keep the beetles from birds and from weather, for they are not affected by cold. Having strong wings, they can fly considerable distances.

The eggs are placed under the leaves in groups, and without any regular arrangement.

In ordinary circumstances the larvæ are found on the willow plants towards the end of June. They are about half an inch long, dirty white in colour, with black heads and rows of black spots along their bodies; they have six feet.

In this country, as in Germany, there are two attacks, one in the spring, and the other in September and October.

To prevent the attacks of these beetles, flooding the willow beds has been resorted to where this can be done artificially. Though they require a deal of drowning, this tends to decrease them, or at least those below the water level. Many are ensconced under the bark of trees, in posts, and hedges above the water mark. Flooding with sewage has been found to be far more effectual than flooding with water.

As far as possible, rubbish, and any other possible refuges for the beetles, should be removed from the willow beds and their neighbourhood.

Many things have been tried to dislodge these insects, such as soot, sulphur, and other unpleasant materials. Those who have seen willow plants growing luxuriantly in beds will appreciate the difficulties of applying insecticides or insectifuges either in dry or liquid form.

Paris green and London purple have been experimented with and found of some benefit. These require to be applied early, upon the first appearance of the beetles and before the plants have made too much headway. Care must be taken not to make the arsenical washes too strong, as the willow leaves are tender.

Not more than one ounce to 20 gallons of water should be used at first.

Some willow-planters have taken to picking the beetles off by hand, and shaking them into vessels held beneath the plants; this operation is said to have been effectual in small plantations.

The larvæ of the Eye Hawk Moth and the Bufftip Moth are found feeding upon the osiers, and also those of the Puss Moth, but not in sufficient numbers to cause any real injury.

The Bufftips may perhaps in some localities do mischief, as they are numerous at times and strip where they feed.

A fungoid growth of the osier is a kind of rust, similar to the rust on wheat. It comes off upon the clothes of persons moving amongst the osiers. The growth of osiers would be retarded if severely affected by rust.

Rabbits, when numerous, are very injurious, biting off the young shoots and injuring others.

Hares are to some extent injurious in the same way, but not so much complaint is made about them as of rabbits.

Water rats in some districts do a certain amount of damage by cutting a road through the young growth.

Mice on fen land injure the heads by biting them close to the ground, causing them to die.

Purposes to which Osiers are applied.

The following are the principal purposes to which osier rods are applied:—

Agriculture.—Nearly 25 per cent. of the supply of osiers is used for hand baskets for twitch and potatoes, root and potato skips, chaff skips, riddle and sieve bottoms, hampers, flats, peds and baskets for fruit, potato hampers and sieves, and fowl baskets.

Manufactures and Trade.—About 40 per cent. of the supply of osiers is utilised in the manufacture of baskets used by cotton spinners, lace makers, hosiers, confectioners, wine and spirit merchants, brewers, carriage makers, fruiterers, gardeners, bakers, grocers, butchers, hawkers, coal miners, and coal whippers.

Domestic Purposes.—About 10 per cent. of the osier supply is used for clothes baskets, cradles, wicker chairs, market and other baskets, and small fancy articles.

Post Office.—The manufacture of baskets used to collect and carry letters in the office, and of parcel post hampers, absorbs about 7 per cent. of the supply of osiers.

Railways.—Railway companies use about 10 per cent. of the supply for luggage barrows, meat and other hampers.

The remaining 8 per cent. is used for herring peds, baskets for unloading herrings and other fish, smelt hampers, salmon baskets, anglers' hampers and baskets, creels, eel hives, and jugs.

In addition to the above summary of Mr. Little's report, it may be useful to direct attention to an article by Mr. W. J. Cochrane, of Hetton-le-Hole, Fence Houses, Durham, on the cultivation of osiers as a profitable method of utilising boggy or marsh land, published in the Journal of the Highland and Agricultural Society of Scotland (5th Series, vol. v., 1893), from which the following remarks have been reproduced :—

Provided there is a constant supply of moisture, any soil is suited to the willow, assuming, of course, that it be of such a nature as to supply the requisite amount of plant food ; but the most favourable land is a drained bog, rich in "humus" or decayed vegetable matter, and situated in the vicinity of water, either in the form of dykes, ponds, or the sea.

All the varieties of osier require a large amount of moisture as compared with ordinary farm crops. Stagnant swamps, however, are not suitable for osier growing, and such spots would require draining, but not to such an extent as to cause the land in a few years to become dry ; for it must be remembered that it is just as unreasonable to expect a good bed of osiers on a dry soil as on a too wet swamp. In the first case they soon dwindle down, become stunted in growth, and in a short time yield no return to the grower ; whilst in the second case, if too much water be present, the frost and hoar-frost resulting therefrom tend to destroy not only the tops and young shoots but also the roots. The great objection to a too dry osier bed is that during the spring the plants make too great a call upon the moisture existing in the soil, and thereby reduce it to such an extent as to cause a deficiency in the summer and a check to the growth of the trees.

If basket work is the main use to which the osiers are to be put, perhaps the best kind to grow is the common white willow, *Salix alba*, which grows fast and attains a large size, yielding tannin and salicin, while, in addition to its utility for basket making, its wood is suitable for wattles, fuel, and chip. The common willow, *Salix viminalis*, is a very good osier for general purposes, being suited alike to rough and to delicate work ; while a taller variety, the long-leaved willow, *Salix triandra*, growing to a height of 20 feet, is one of the most useful of all willows. Amongst others, *S. rubra* and *S. laurina* may be recommended. The crackling willow (*S. fragilis*) is rich in salicin, and at the same time yields a fair amount of very good timber.

The method by which willow-growing is extended is by means of cuttings or slips, not less than 6 inches long, and having at least two healthy buds, taken from good strong plants before the sap has risen, that is during the month of March for preference. Usually such cuttings may be obtained dressed ready for planting at the rate of about 10s. per 1,000, but when they have not been previously prepared, it is necessary to make a clean cut with a sharp knife completely round, and immediately below a bud, just as you would treat slips of rose trees or other garden plants. All the buds and young shoots but three should be carefully removed, one of them only will be required to grow, but in every case three should be left, to allow for the possibility of any of them failing to produce a shoot.

The slips should be put into rows singly, about 2 inches deep, and a few inches apart each way, and the soil should be very firmly trodden

down against the stem. This is done as soon after the cuttings have been taken as is practicable, *i.e.*, in March. During the summer they will not require much attention beyond an occasional hoeing, except in very dry weather, when they will be greatly benefited by judicious watering.

However the soil of the future plantation may have been occupied in previous years, it will be necessary to either plough it over and harrow it level, or dig it, which latter plan, if well executed, is the best, though it is the most expensive. If there has been a sward of grass or other herbage, it must be pared off and burned, the resulting ashes being spread over the land. If it is considered that drainage is required, the tiles must not be placed less than 3 feet deep; in the majority of cases this will be unnecessary. If digging is practised, the land may be trenched into beds 6 to 20 feet broad, according to the size of osier to be cultivated—cross furrows or narrow ditches being formed to carry the surplus water. If the plough has been used, the trenching and bedding up should be done soon after the harrows have completed their work.

Transplanting should be left until the spring following the year in which the cuttings were planted, when it may be done without fear of injury. It is at this period that great care is needed to ensure a successful bed or “holt,” for it must be remembered that the plants have to remain here for the rest of their life, and no amount of trouble should be spared in their proper planting and establishment. Rows should be struck out 3 feet apart on the higher ground (a good distance between each water furrow being about 10 feet), so that the rows will be at even distances throughout the plantation. The plants should be placed uniformly 1, 2, or 3 feet apart (for general purposes 2 feet is the best distance); the larger species require more room than this, but in some parts of England the smaller kinds of osiers are planted 12 inches apart, the distance between the rows being only 18 inches.

Before the plants are finally placed in the ground the shoots which have formed from the extra buds may be cut off as close as possible to the stem, allowing two or three buds to remain for the next year's growth, but all those shoots which would go below the ground must be *entirely* removed. A spadeful of earth should be put round the young tree, and firmly trodden down, so as to give it stability; finally, the land should be cleared up and thoroughly dressed for the ensuing summer.

Flooding with sewage-water, if skilfully and carefully practised, is a great boon to the osier grower; but unless the plants are growing in the immediate vicinity of some populous town or village, this is impossible.

On sewage-farms, the number of which is rapidly increasing, it has been the custom to grow grain and other crops, notably cabbages; but the reluctance manifested among the inhabitants to vegetables grown with the aid of sewage is so great that consumers prefer to buy an inferior article from the market garden. To remedy this, the attention of the sanitary authorities has been directed to the growth of a more suitable and as productive a crop to take the place of others which are no longer profitable; and in the industry of sewage-farming, osiers now take a leading place on the list of products recommended to be grown.

4, WHITEHALL PLACE, S.W.,
May 1893.

BOARD OF AGRICULTURE.

Insects on Fruit Trees.

The Board of Agriculture being advised that Caterpillars and other insects are now present in numbers on fruit trees, consider it desirable to republish information with regard to remedial measures to be taken against them, which have at various times been suggested in particular cases.

Upon examination of fruit trees, and especially apple and damson trees, it will be seen that many caterpillars are at work eating the forming fruit and the leaves.

The caterpillars at first are greyish, and so small as to escape notice unless attention is specially directed to them, but they can be found in alarming numbers in many orchards and fruit plantations, and it is most important that steps should be taken at once to check their progress.

In their later stages the caterpillars are light green, and nearly three-quarters of an inch long.

First.—It should be noted that syringing the trees infested with caterpillars has proved advantageous in many places in previous seasons; it has been more particularly useful in respect of plum, damson, and small apple trees. The large old apple trees are beyond the reach of ordinary garden engines used for this purpose, and it is only in hop-growing districts where hop-washing machines are generally used that the systematic syringing of large standard trees has been adopted. These machines can be moved about easily enough in orchards. In plantations, with fruit bushes under the standards, it is more difficult to move them about and to get the supplies of liquid brought through the thick undergrowth.

The mixtures to be employed for syringing fruit trees are—

- 1st. The extract of 10 lbs. of quassia, obtained by boiling quassia in water, to 100 gallons of water and 7 lbs. of soft soap.
- 2nd. The extract of 5 lbs. of quassia, to 100 gallons of water, with 6 lbs. of soft soap and 4 pints of paraffin, well stirred.
- 3rd. The extract of 5 lbs. of quassia to 100 gallons of water, with 6 lbs. of soft soap and 4 pints of Calvert's carbolic acid, No. 5.
- 4th. 8 lbs. of soft soap and 2 lbs. of finely ground hellebore, and a quart of paraffin, boiled and well stirred together. This is sufficient for 100 gallons of water.

The soft soap is dissolved in a tub with hot water. The quassia chips are boiled in water and put into another tub. Where paraffin is used it should be well stirred up with boiling soap and water before it is mixed with the cold water. Water carts, ordinary barrels, or wine casks set upon frames with wheels, should be brought full of water to where the materials are being prepared, either at the farm buildings or in an extemporized shed with a copper in it, and the requisite amount of dissolved soap and other ingredients added. The Éclair and other similar hand machines can be used for small apple trees, plum and damson trees, and for filbert and cob nut trees, which are also badly infested.

It is important that syringing should be done at once, as to be effective it must be commenced early. Directly there are signs of infestation the

process should be begun. As the hatching out of caterpillars is not simultaneous, but is extended over some days, the syringings must be renewed.

Secondly.—Some fruit growers in several parts of the country have tried the arsenical insecticides used extensively in the United States and Canada. These have not been generally adopted in this country on account of their poisonous properties. The time has now arrived when they should be fully tried.

There are two special substances of this nature. The one, "Paris Green," or "Emerald Green," is strongly recommended by several American and Canadian entomologists.

Professor Lintner, the Entomologist of the State of New York, says that, in his opinion, fruit growers who do not use Paris Green as a remedy against caterpillars infesting fruit trees are guilty of culpable negligence. Professor Lintner believes that the produce of fruit land may be doubled by the judicious use of this substance.

A full trial of this is urged. Care must, however, be taken to observe strictly the regulations laid down for its use, or injury will be caused to the foliage and blossoms.

The latest advice from experienced practical entomologists is to put 1 lb. of the Paris Green, in the form of paste, which is far better than powder, into from 165 to 200 gallons of water.

The mixture must be kept well stirred in order that the solution may be maintained at an uniform strength.

The object is not to dislodge the caterpillars but to poison their food with the arsenical solutions which should fall, like gentle rain, upon the leaves and blossoms. For this purpose fine "rose" jets should be used. Riley's "cyclone nozzle" is used in America. The Vermorel nozzle is also a good distributor.

The other arsenical compound is "London Purple," obtained in the manufacture of aniline dyes and composed of lime and arsenious acid.

One pound of London Purple should be mixed with from 160 to 180 gallons of water, and kept well stirred, being applied in the same manner as the Paris Green, sprayed on in the form of a heavy dew, or mist, and not squirted violently upon the leaves and blossoms.

London Purple can be obtained as a powder, and in a fluid form ready for mixing with water. It is as poisonous as Paris Green.

Stock must not be put on grass in orchards where these arsenical solutions have been used on the fruit trees, until a considerable period has elapsed and rains have fallen; nor must they be used where bush fruits for early picking, and vegetables are grown under the trees.

Three or four days will elapse before the effect of these solutions is apparent, and, as a rule, it will be found necessary to repeat the applications.

These solutions can be put on with hop-washing engines, ordinary garden engines, the Éclair, hydronettes, and other pail engines. Syringing with Paris Green, London Purple, and other solutions recommended above, will be equally detrimental to the Apple Blossom Weevil (*Anthonomus pomorum*) now present in large numbers, and to the Apple Sucker (*Psylla mali*), which is causing unprecedented harm in many localities.

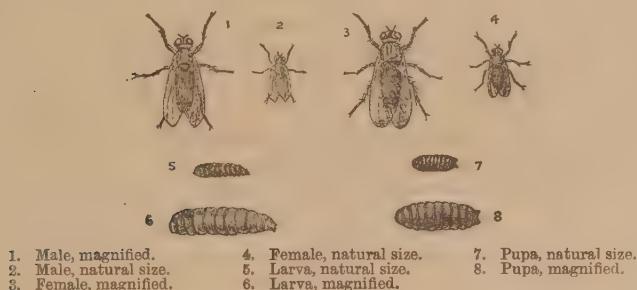
4, Whitehall Place, S.W.,

May 1893.

Copies of this leaflet may be obtained free of charge on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.

BOARD OF AGRICULTURE.

Mangel Wurzel Fly (*Anthomyia betæ*, Curtis).



Serious injury is often caused to mangel wurzel plants in June and July by the attacks of the mangel wurzel fly, *Anthomyia betæ*, whose larvæ, or maggots, form burrows within the tissues of the leaves, and live upon the juices of the plants, weakening and exhausting them, and killing them, or making them unhealthy. After the mangel plants have been singled and begin to show vigorous growth, with broad leaves, they suddenly droop and present a withered appearance. Upon examination it will be found that there are white blotches, like blisters, upon the leaves, caused by maggots lying within their tissues, from which they have exhausted the juices and extracted the chlorophyll, or green colouring.

In some seasons this attack has much decreased the mangel crop. Having regard to the importance of the crop and the harm that is frequently caused by this insect, the following description of it in its various stages has been prepared, with information as to remedies that have been found efficacious, and precautions that should be taken to prevent its increase.

LIFE HISTORY.

The mangel wurzel fly is about the size and shape of a common house fly. It is dark grey, with black hairy legs, having yellow feelers, or palpi, with black tips. The femora of the female are yellow. Towards the end of May the fly is first seen, when it deposits its eggs in groups of two, three, or four, upon the under surfaces of the leaves of the mangel plants.

These tiny white eggs can be seen fastened upon their ends to the leaves. As many as fifty eggs have been counted upon one leaf.

From the eggs maggots come out in five days, and immediately bore their way through the outer skin, or cuticle, into the leaf tissues, or parenchyma, feeding thereon, and moving on when food fails.

The maggot is about the third of an inch long, with undefined, or indistinctly marked segments. In colour it is dirty white, yet transparent, so that the food in the intestinal canal is visible. It has no legs. Its tail end is cut square, but the head is sharp pointed, being furnished with a pair of hooked appendages which serve for boring and cutting into the tissues of the leaves.

For about a month the maggot, or larval, stage continues, during which time the maggot does active mischief. Pupation is assumed either on the leaves, in which case the red, or reddish brown, pupæ may be seen upon them; or the maggot falls to the ground and pupates therein.

The pupæ can be easily seen upon leaves, fastened to them, as it appears, or embedded in the etiolated tissues.

From these early pupæ the flies emerge in about 10 days. There are three broods if the conditions of food and weather are suitable. The pupæ of the last brood, from which the first generation of flies appear in the spring, pass the winter in the ground, or in decaying leaves and rubbish, or on roots of weeds, or on the mangel bulbs.

REMEDIES.

In the first place, infested plants should be dressed with nitrate of soda and common salt, put on at the rate of from 1 to 1½ cwt. of nitrate of soda and 2 to 3 cwt. of salt per acre. This will force them along, and give them a chance to grow away from their enemies. If this could be put on by a powerful distributing machine, the fine distribution of particles upon the leaves might also tend to make them unpleasant resting-places for the maggots.

Finely powdered lime put on in this way would also help to rout the maggots, but it could hardly be applied by hand evenly enough. Lime and soot, in the proportion of 1 bushel of lime to 3 bushels of soot form a capital mixture for application by means of a machine.

Washing the plants with compositions of paraffin oil and soft soap and water has been adopted with some success. The proportions of this wash are 6 lbs. of soft soap, and from 3 quarts to 1½ gallons of paraffin oil to 100 gallons of water. The extract of 9 to 10 lbs. of quassia may replace the paraffin oil in this solution, or from 3 to 4 quarts of carbolic acid may be used with 5 to 6 lbs. of soft soap and 100 gallons of water.

These compositions can be put on with the ordinary hop-washing engine, like a large garden engine, with long hose attached to it, or with the Strawsonizer, which distributes liquid in the form of spray upon every part of the plants, and can distribute as small a quantity as one gallon of paraffin, undiluted, upon an acre, in the form of the lightest mist. The *Eclair* or *Knapsack* machine would be found useful for applying liquids in the case of smaller holdings.

When the white eggs are discovered upon the leaves of mangel wurzel plants in infested fields, and these can be seen without a glass, it would be desirable to apply paraffin and soft soap washes at once to make the leaves unpleasant to the maggots when hatched, and prevent them from burrowing into the leaves.

Where some of the plants in mangel fields are very seriously attacked, showing many blisters and blotches upon them, they should be pulled up and destroyed, so as to prevent a second brood from being hatched and

spreading further mischief. Women could do this, but they would require careful instruction and direction. It need hardly be said that these plants must be thoroughly destroyed either by burning or burying.

PREVENTION.

All the leaves of mangel wurzel plants in infested fields must be collected closely and burnt after the bulbs have been topped and tailed. On no account should the leaves stripped from infested crops be taken into pastures for cattle during the summer, as is sometimes the custom.

As it is believed that this fly is bred and reared upon dung heaps, it is important that these should be kept turned. Farmyard manure put on for mangels should be ploughed in deeply, and the land well closed by harrow and roll before the mangel is put in.

Many weeds, as some of the thistles (*Carduus*), sow thistles (*Sonchus*), and dandelion (*Taraxacum*), serve as breeding places for this insect, and should be kept from the neighbourhood of dung heaps and mangel fields.

The common dock is also subject to the attacks of a species of *Anthomyia*. In some localities dock leaves are frequently full of the maggots of an *Anthomyia*, which appears to be *Anthomyia betæ*, and it would be wise to wage war against this weed, and to cut it up at once in the neighbourhood of mangels.

4, Whitehall Place, London, S.W.

June, 1893.



BOARD OF AGRICULTURE.

The Field Vole and its Natural Enemies.

The Board of Agriculture believe that it may be useful that some of the information contained in the recent Report of the Departmental Committee on Field Voles (Scotland), C. 6943 should be reproduced in a more convenient form for distribution. Among the vermin whose excessive multiplication, under specially favouring circumstances, result in injuries to farmers, the field vole has been lately conspicuous by extensive damage inflicted on young grass and herbage on hill grazings and rough pastures of southern Scotland. This animal has proved a source of much loss on former occasions, in Essex and Kent three hundred years ago, in Gloucester and Hampshire early in this century, and in Scotland in 1875-6.

With the following extracts from the Report of the Committee, some of the illustrations given have been reproduced for the reader identification of the animals mentioned. As will be observed from the first of the appended plates, the characteristics of the field vole are a blunt rounded muzzle, short ears, and a short hairy tail. These features distinguish it from the true field mouse, or long-tailed field mouse which has a pointed muzzle, prominent ears, and a long naked tail. The water vole or water rat differs in the same respects from the common brown rat or Norway rat.

Most of the animals described as preying upon the field vole are likewise natural enemies of mice and rats. Thus weasels, stoats, foxes, kestrels, white and brown owls, and buzzards are all known to prey upon these vermin. Rooks and crows are also said to do much good in digging out and destroying the young of both voles and field mice.

The animal which has recently caused so much mischief on hill farms in the southern uplands of Scotland, although often spoken of as a mouse, is technically known as the short-tailed field vole (*Arvicola agrestis*). (PLATE I.) Three species of the genus *Arvicola* inhabit this country, viz., the water rat (*A. amphibius*), the red or bank vole (*A. glareolus*), and the field vole (*A. agrestis*).

All three voles are distinguished from the true mice (genus *Mus*) (PLATE II.) by their stouter body, thicker head, obtuse muzzle, small ears, and the tail shorter than the body, whence they are often called short-tailed mice. The molars or back teeth have flat crowns, with transverse ridges of enamel adapted for grinding the vegetable matter on which they feed, whereas in true mice they are covered with points or tubercles suitable for an omnivorous diet.

The field vole is at all seasons an inhabitant of our pastures, and may be found at all heights from the sea level to near the summits of our highest hills, but its favourite haunts are said to be low-lying moist grass lands and damp plantations, especially when young. In such spots, and more frequently in the former, these animals live in communities, forming numerous burrows at a great depth, each pair having their own dwelling in which they bring up their young, and deposit their store of winter food. All round their tortuous runs are seen on or near the surface, showing where they have been foraging.

The field vole usually produces three or four litters a year, each consisting of from four to eight young, but in some seasons it is even more prolific, the breeding season is prolonged, young voles being observed from February to November, and the litters containing as many as 10 young.

Its diet is principally herbivorous, consisting of roots, young shoots of grass, and the tender bark of shrubs. It particularly affects the delicate white stems rising immediately out of the earth, but in times of scarcity nothing green comes amiss to it. When pressed it is said to devour insects, and even its own kind.

One of the greatest and most effective enemies of the field vole is the short eared owl (*Otus brachyotus*) (PLATE III.). This bird, which is distributed over almost every part of the globe, is a normal winter immigrant to these islands, appearing simultaneously with the woodcock (whence it is popularly known as the "woodcock owl"), and usually departing in spring. Nests in ordinary seasons are of comparatively rare occurrence in Great Britain, but in consequence of the recent vast multiplication of their favourite food, the vole, these owls have not only arrived in unusual numbers, but have remained and bred all over the affected district in Scotland, laying from 8 to 13 eggs (though Professor Newton, in his edition of Yarrell's "British Birds," mentions seven as an unusual number) and rearing more than one brood.

The short-eared owl differs from most other owls in that he hunts in daylight and his operations can be observed, but there is no doubt that the nocturnal species are also useful to the farmers in destroying small rodents, and it would be difficult to condemn too severely the foolish and cruel action of those who allow or encourage the destruction of this useful and beautiful family of birds.

Next, and hardly second in merit, as a check upon voles and mice, comes the kestrel (*Falco tinnunculus*), (PLATE IV.) and it is to be deplored that popular ignorance as to its food and habits is even greater than that which prevails in regard to owls. This bird although possessing the long wings and dark eyes characteristic of a true falcon, is known to gamekeepers as a hawk, its death warrant is a standing order in most preserves, though here again there has been some improvement, and the destruction of the kestrel is forbidden on some estates. The food of this bird is known to consist almost exclusively of mice, grasshoppers, coleopterous insects, and their larvæ.

It may be observed in connection with this question of the kestrel's habits, that it is rare to find people able to distinguish between one kind of hawk and another. Few of the witnesses before the Departmental Committee were able to describe hawks otherwise than as red, blue, brown, or yellow, and it was often impossible to make out what species they intended to indicate.

It is one of the peculiarities of the *Falconidæ* that their plumage varies according to their age and sex; in the southern counties of Scotland the sparrow-hawk, (PLATE V.) (which does not prey on mice), is generally known as the "blue hawk," and the kestrel as the "brown" or "red" hawk. But an immature male sparrow-hawk has reddish-brown plumage, and an adult male kestrel has a bluish-grey head and back.

Buzzards probably destroy large numbers of voles and mice, and are too heavy on the wing to do much injury to winged game.

Rooks have also done excellent service in digging up the voles' nests and devouring the young.

Amongst other birds which have been observed to prey on voles are certain species of sea gulls.

The heron does not appear to be an especial enemy of the vole, though it is said to sometimes attack and devour water rats.

Stoats and weasels are among the deadliest and most persevering enemies of small rodents. They kill far more than they can devour, apparently out of sheer blood-thirstiness. In woodlands and on low ground they undoubtedly do much harm to game, especially the stoat (PLATE VI.), which may be easily distinguished from the weasel (PLATE VII.), (known in Scotland as the "whittret"), by its greater size and by the black tuft on the end of the tail which is retained at all seasons of the year, even in winter, when the rest of the body becomes wholly or partially white.

Adders feed readily on voles, but an adder would probably not kill more than one animal of the size of a vole in a single day, so there is no reason to extend protection to these venomous reptiles.

Some naturalists aver that the mole preys upon voles, but the Committee, in their inquiries upon this point, were unable to obtain any evidence tending to confirm this belief.

34 THE FIELD VOLE AND ITS NATURAL ENEMIES.

The Swiss naturalist Fatio, includes the hedgehog among the enemies of the vole.

With the exception of the stoat, the weasel and the common rook, the natural enemies of the vole may be divided into two classes, viz., those which destroy the voles and are harmless to sheep, crops, and game; and those which, though preying on voles, are so harmful in other ways as to have no claim to preservation, viz. :—

1. *Vole-killers, harmless, or nearly so, to sheep, crops, and game :*

Owls of all sorts,
Buzzards,
Kestrels,
and the smaller Seagulls.

2. *Vole-killers, hurtful in other ways :*

Foxes,
Ravens,
Carriion and Hooded Crows,
Great Blackbacked Gulls, and Adders.

The Departmental Committee recommended that strict injunctions should be given by landowners that the birds mentioned in the first class should not be destroyed. Their presence in full numbers, though inadequate to avert an outbreak of voles, would undoubtedly tend to mitigate it, and as has been proved in the case of the short-eared owl, they have the faculty of multiplying abnormally in presence of an unusual supply of food. They are, at all events, most useful allies to man in combating attacks of ground vermin.

The Committee deprecated in the strongest manner possible the use of the pole-trap for the capture of hawks. Besides the inhumanity of this device, it is indiscriminate, and harmless owls, kestrels, and buzzards are just as likely to be taken by it as are the more mischievous species.

While admitting that it is hardly reasonable to expect that stoats should be allowed to multiply in game-coverts, or in the vicinity of pheasant coops, the Committee had no hesitation in recommending that weasels, which are persistent mouse hunters, and do little damage to game, should not be molested, at least in moorlands and hill pastures, where they can do little harm and much good.

4, WHITEHALL PLACE, S.W.,
July 1893.

PLATE I.



SHORT-TAILED VOLE. *Arvicola agrestis*.—Locally known as Vole, Field Mouse, Grass Mouse, and Meadow Mouse. Colour, reddish-brown above, paler beneath. Average length of head and body, 4 ins.; tail, 1 in. External distinguishing characters, short rounded muzzle; short ears, almost buried in the fur; short hairy tail.

PLATE II.



LONG-TAILED FIELD MOUSE. *Mus sylvaticus*. — Colour, sandy-brown above, white beneath. Average length of head and body 4½ ins.; tail, 4 ins. External distinguishing characters, long pointed muzzle, prominent naked ears, and long naked tail.

PLATE III.



SHORT-EARED OWL. *Otus brachyotus*.—Migratory, living much on the ground, and of diurnal habits. General colour, above yellowish-brown, variegated with spots, streaks, and cross-bars of a darker colour; pale beneath. Eyes yellow. (The eyes of the White or Barn Owl and the Brown or Tawny Owl are black.) Appears usually in October (whence called Woodcock Owl) and remains until April. A few remain to breed annually in suitable situations. Preys largely on mice and voles.

PLATE IV.



KESTREL or WINDHOVER. *Falco tinnunculus*.—Locally known as the Brown or Red Hawk. A long-winged, dark-eyed Hawk, with reddish brown back and bluish-grey head and tail when adult. Preys upon mice, voles, beetles, grasshoppers, small birds, and occasionally young game-birds. Easily recognised on the wing by its habit of hovering over the fields.

PLATE V.



SPARROWHAWK. *Accipiter nisus*.—Locally known as the “Round-wing” or “Blue Hawk.”—A short-winged yellow-eyed Hawk with long barred tail. Mottled brown above when young, brownish-grey when adult. White beneath, with transverse bars on breast and flanks. Preys upon small birds, black-birds, thrushes, pigeons, and young game-birds. Does not hover like the Kestrel.

PLATE VI.



STOAT. *Mustela erminea*.—Locally known as Weasel, Stoat, Clubster, Lobster, and Ermine (in winter). General colour, brown above, white beneath. Tail longer than in Weasel, and with a black tip at all seasons, even in winter, when the fur becomes white or partially so. Average length of head and body, 9 to 10½ ins.; tail, 4½ to 6 ins. Preys on mice, voles, rats, rabbits, leverets, and young game-birds.

PLATE VII.



WEASEL. *Mustela vulgaris*.—Locally known as Whittret, Cane, and Mouse-hunt. Average length of head and body, 7 to 8½ ins.; tail, 2 to 2½ ins. Colour, reddish-brown above, white beneath; tail, brown. Does not turn white in winter. A persistent enemy to rats, mice, and voles. A



BOARD OF AGRICULTURE.

Autumn Catch Crops and Fodder Supply.

The Board of Agriculture believe it may be useful to draw attention to some of the leading special and catch crops, which, in the event of an early harvest, may, under favourable conditions, prove of utility in providing green food for stock in the coming autumn, winter, and spring in districts where the recent severe and prolonged drought has seriously diminished the ordinary hay and fodder crops of the season.

The policy of resorting to one or other of these catch crops must in every case be determined by the varying local circumstances of soil and climate, and cannot be made the subject of general recommendation.

Rye, if sown at once, might afford good food for stock early in the autumn, or it might be mown for hay if the land were strong and in good heart. It would furnish very early food in the spring for stock, or it could be made into ensilage. Rye in the early stages of its growth should be top-dressed freely with nitrate of soda.

Oats put in promptly would give food for soiling or cutting in the autumn. The crop might also be made into hay, and it is equally useful for converting into ensilage.

Trifolium incarnatum on suitable soils and under favourable conditions, in its three varieties, early, medium, and late, may be largely sown in proper proportions to follow in succession in cutting. It might also take the place of red and other spring-sown clovers that have failed.

Italian Rye Grass sown very thickly, and as early as possible, would under favourable conditions yield some good food in the autumn, and again in the following spring. This crop provides good fodder for dairy stock. It may be sown after vetches or grain crops from July to September, but will require a heavy manuring of nitrate of soda or other ammoniacal manure.

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Trifolium pratense, or Cowgrass, if sown at once, either alone or with Italian rye-grass, might with sufficient moisture yield a good crop in the autumn. It should be simply brushed or rubbed in, or harrowed in by a chain harrow, and a roller run over it. Nitrate of soda and superphosphate may be used as manures. This clover can only be mown once, but it would afford excellent feed throughout the late summer and autumn after its crop of hay.

A mixture of **rapid growing Grasses and Clovers**, such as the above, with the addition of cocksfoot, trefoil, and alsike, should, with the necessary moisture, yield a good crop by the end of September.

Brank, or Buckwheat, may, in some instances, be grown with advantage, where climate and soil permit.

White Mustard grows very rapidly, and may be sown where turnips and mangolds have failed, or upon stubble. If plenty of seed be used, and some phosphatic manure applied to the stubble, there should be good sheep food in six weeks or less, but this crop does not stand a hard winter. A peck of seed per acre, sown as late as the end of August, is said to yield good food by the end of November.

Rape, in the form of Giant Rape, may be drilled in the old drills where mangolds and swedes have failed, or on fresh ploughed stubbles. In a favourable season there might be time to single it and get a good crop, or it might be left unhoed.

Dwarf or ordinary rape can be sown broadcast in July and August on land where crops have failed, and should be harrowed in. On stubbles it may be sown broadcast with 3 or 4 cwt. of superphosphate per acre, and will furnish good food for the spring.

Thousand-headed Kale, if drilled at once, well manured, and afterwards singled, might supply a valuable and very bulky food for both sheep and cows in early spring from February onwards under favourable conditions. If kale plants are available time would be saved by their being transplanted where other crops have failed.

Thousand-headed Kale has, in many districts, taken the place of rape as being a more heavy bearing crop.

Kohl-rabi might, in certain cases, be still put in where turnips and mangolds have failed, and where turnips could not be again sown, but in most districts the season would be too much advanced for a large crop to be looked for.

Vetches, sown after an early cereal crop, where the stubble has been broken up either by a plough, grubber, or harrow, might afford much food, even in the late autumn, on well farmed land. They should be sown with a mixture of oats, wheat, beans, or rye to keep them up.

Winter Oats and Barley, if put in speedily, will furnish a good yield of food for hay, soiling, or ensilage. If the weather is unfavourable to quick growth these crops will still furnish excellent food for stock in the spring.

Pea Haulm, if made into hay, should form a useful addition to the stock of fodder for winter feeding.

Hop Bines may also be made into hay. For this the finer bines, which are often trained on cocoanut fibre strings, may be specially used. But care must be taken to pull out these strings so that they are not eaten by cattle. In making hop bines into hay the bines must be got together directly they are "hayed," and not left till the end of hop-picking. In view of the present high prices of hay it will pay to take up the bine-hay when ready; the neglect to take this precaution is the probable cause of the hop-bine hay frequently turning out poor.

Late Swedes, Turnips, &c.—Where mangolds and swedes have failed to come up, it would not be too late to run in the same drills, either with or without manure, some of the following, viz., the late swede, hardy swede, the orange jelly, golden ball turnip, green globe turnip, six weeks turnip, or the grey stone turnip. There are several varieties of turnips which might be sown in this way which would produce considerable quantities of keep, and stand the winter, even where sown broadcast, some of which may be sown upon stubbles, as the harvest will be early, and they would have nearly three months to grow in.

Brewers' Grains will form a useful addition to rations of straw for stock in the absence of hay.

Clover Leys (Old Leys), instead of being ploughed up this autumn, may, no doubt, under the circumstances, be left down for another year in cases where the plant is at all good.

ENSILAGE.

The process of preservation by ensilage, either in pit or in stack, is applicable to all kinds of green food, such as **Clover, Vetches, Rye, Oats, Wheat, Peas, and Beans**.

Silage may be either sweet or sour, according to the pressure employed. In sweet silage the material is allowed to heat to a higher temperature than in the other form.

Sorghum saccharatum, drilled or dibbled in within a few days (from June 29th), would yield a bulky crop suitable for ensilage if the weather continues hot. If, however, the later season should prove cold or wet, the crop is unlikely to prove successful as was shown by the experiments made by the Agricultural Department in 1888.

Maize, or Indian corn, would probably yield a crop large enough for ensilage, but in some districts the season may be too

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far advanced. If sown now the seed should be previously soaked to ensure rapid germination.

Great care must be taken in converting maize or sorghum into silage, as both are apt to become mouldy.

Refuse herbage.—Rough herbage on the outside of fields, sides of hedges, sides of roads, &c., should be mown and put into silos with any brushings of meadows and pastures.

Coarse Hop Bines may be chopped while green and put into the silo, care being taken to take out all cocoa-nut fibre strings.

Aftermath.—Pastures and meadows not wanted for stock, treated speedily with nitrate of soda, would yield herbage, if not for hay, at any rate for ensilage late in the autumn.

Fern or Bracken may be made into hay, or put into the silo.

The green shoots of **Gorse** or **Whin** may be made use of for spring food in districts where these are available.

In the special circumstances of the year it may be also expedient, with the view of providing sufficient supplies of fodder, to use, wherever practicable straw for the feeding of stock, and to substitute for bedding, such materials as fern or bracken, moss litter, and rushes.

4, WHITEHALL PLACE, S.W.,
July 1893.

BOARD OF AGRICULTURE.

Farmers and Assessments to Local Rates.

The Board of Agriculture think it may be useful to circulate some information as to the method of procedure to be adopted by occupiers of land who may seek to obtain a reduction of their assessment to the poor rate and other local rates, on the ground that their premises have been valued at too high a figure, or the valuation maintained at a level above the actual value. The Board desire therefore to bring under the notice of agriculturists the following memorandum, prepared by the Local Government Board, which indicates briefly the principles upon which assessments are made and the steps which may be taken where an assessment is objected to, to obtain a reduction of the amount.

4, Whitehall Place, S.W., HERBERT GARDNER,
August 1893. President of the Board of Agriculture.

MEMORANDUM.

Outside of London the basis for the assessment of the poor rate, and practically of every other local rate levied under the general law, is, where the Union Assessment Acts are in force, the valuation list made under those Acts. There are only 13 places in England and Wales, outside London, where the Union Assessment Acts are not in force.*

I.—As to the Poor Rate.

The poor rate is assessed upon the net annual, or rateable, value of premises, as fixed by the valuation list. The rateable value is arrived at by making certain deductions from the gross estimated rental of the premises, which is the rent at which the property might reasonably be expected to let from year to year, if the tenant paid all usual tenant's rates and taxes, and tithe commutation rentcharge, if any. It is not necessarily the same as the rent actually paid for the property.

The deductions to be made from the gross estimated rental in order to arrive at the rateable value, are the probable

* These places are the parishes of Alverstoke, Barrow-in-Furness, Birmingham, East Stonehouse, Liverpool, and Stoke Damerel, the Township of Manchester, and the Poor Law Incorporations of Bury St. Edmunds, Chichester, Kingston-on-Hull, Oswestry, Plymouth, and Southampton.

average annual cost of the repairs and insurance, and any other expenses that may be necessary to maintain the property in a state to command a rent equal to the gross estimated rental.

If a person considers that his assessment to the poor rate is too high, he must, in the first place, give notice to the assessment committee and to the overseers that he objects to the valuation list on which the rate is based. The notice must be in writing, and must specify the grounds of the objection. It may be served on the assessment committee by being left at the office of the clerk to the board of guardians, or sent by post addressed to the committee at such clerk's office, or delivered personally to the clerk of the assessment committee (*i.e.* the clerk to the guardians) or at his usual place of abode.

On notice of the objection being given, a day will be appointed by the assessment committee for the hearing of the objection, and on such hearing the committee have full power to call for and amend the valuation list. If they do amend it, they must give notice of the amendment to the overseers, who are thereupon to alter the poor rate current at the date of the notice of objection; so that, if on the hearing of an objection made by a farmer or other person against his assessment, the assessment committee reduce the assessment, the objector will only be called upon to pay on the reduced amount the rate current at the time when he made his objection. The reduction will take effect also as regards any rate made subsequently.

Supposing that the objector fails to obtain from the committee such relief in the matter as he considers he is entitled to, the only course open to him is to appeal to the next practicable special or quarter sessions against the poor rate. He cannot appeal against the rate unless he has first objected to the valuation list in the manner above referred to, and has failed to obtain relief from the assessment committee.

If he appeals against the rate he must give 21 days' notice in writing previous to the holding of the sessions to which the appeal is to be made, of his intention to appeal, and the grounds thereof, to the assessment committee and the overseers.

The justices on the hearing of an appeal against the poor rate are empowered to amend the rate by altering the sum therein charged on any person, or in any other manner which may be necessary for giving such relief as they think just; and in certain cases they may quash the rate. If the rate is amended, the valuation list must be altered by the assessment committee in conformity with the amendment.

If the decision of the justices in special sessions is against the appellant, he may carry the appeal to general or quarter sessions. But in the vast majority of instances in which persons who have been over-assessed take action in order to get their assessment reduced, no appeal against the poor rate is necessary: the relief desired is obtained by the simple process of objection to the valuation list before the assessment committee.

With respect to places in which the Union Assessment Committee Acts are not in force, it may be stated generally that subject to the provisions of any local Act, the procedure for obtaining a reduction of assessment is by appeal against the poor rate to special or quarter sessions.

II.—As to Rates other than the Poor Rate.

The principal rates other than the poor rate which are levied under the general law, are the borough rate, the county rate, the highway rate, the general district rate, and certain rates levied for sanitary purposes in rural sanitary districts.

When the whole parish is liable to contribute to the borough rate or county rate, the sum required is paid out of the poor rate. Where only part of the parish is liable, a separate rate is levied in such part in the same manner as the poor rate, and the same observation applies to sums required for the expenses of school boards and burials boards. All these rates are based practically on the valuation list; and it would seem that if the assessment committee amend the valuation list after hearing an objection to the list, any of these other rates should be correspondingly amended without any formal appeal against it.

As regards the highway rate, it is expressly provided that where any valuation list has been amended by the assessment committee on objection, the committee shall give notice of such amendment to the surveyor of highways, or other person authorised to make and levy the highway rate, who shall thereupon alter the then current highway rate accordingly.

As regards the general district rate levied by an urban sanitary authority, it has been held by the Queen's Bench Division of the High Court of Justice that where, subsequently to the making and demand of a general district rate, the valuation list upon which the rate was based was amended by the assessment committee by the reduction of the assessment of particular premises, there was shown, upon a summons for non-payment of the full amount of the rate as assessed upon the premises, sufficient cause for non-payment of so much of the rate as was assessed on the amount of rateable value in excess of that to which the assessment committee had reduced the assessment, although there had been no appeal against the general district rate.

The sanitary authority are empowered to reduce the sum at which any person has been assessed in the rate, if he has been over-rated, *i.e.*, if he has been assessed on a higher rateable value than that entered in the valuation list in respect of his property.

If, however, a person assessed in any of the above rates considers that he is over-rated, and is unable, in any other way, to obtain such relief as he considers himself entitled to, he may appeal against the rate.

In the case of a highway rate, he may appeal to the justices at the next practicable general or quarter sessions.

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For the purposes of such an appeal notice in writing must, within 14 days after the making of the rate, be given to the surveyor of highways, waywarden, or urban sanitary authority, as the case may be, of the intention to appeal, and the notice must be accompanied by a statement of the grounds of appeal.

On the hearing of the appeal, the justices may amend or, if necessary, may quash the rate.

An appeal against a general district rate lies to the next court of quarter sessions held not less than 21 days after the demand of the rate. Fourteen days' notice of the appeal must be given to the urban sanitary authority, and the notice must state the ground of appeal.

In the case of separate rates levied by overseers to meet expenses of rural sanitary authorities, the same appeal lies to special or quarter sessions, as in the case of the poor rate.

Separate borough rates and separate rates to meet contributions required by a county council may also be appealed against in like manner as a poor rate, and the same remark applies to separate rates to meet the expenses of a school board.

Appeals against rates levied under the Lighting and Watching Act, 1833, may be made to general or quarter sessions, subject to the same provisions as appeals against poor rates.

III.—*Special Assessments of Land not occupied by Buildings.*

In the case of three of the rates mentioned in Part II. of this memorandum, the law provides for the assessment of land not covered by buildings, at a less rate than property consisting of buildings, &c. These three rates are the general district rate in an urban sanitary district, a separate rate for special sanitary expenses in a rural sanitary district, and the lighting rate.

Occupiers of land used as arable, meadow, or pasture ground only, or as woodlands, allotments, orchards, market gardens, or nursery grounds, are assessable to a general district rate in respect of such land, in the proportion of one-fourth part only of the rateable value according to the valuation list; and in the case of a separate rate for special sanitary expenses, they are, according to circumstances, either to be assessed in respect of one-fourth part only of the rateable value of the land, or are to pay in respect of it one-fourth part only of the rate in the pound payable in respect of houses and other property.

Occupiers of houses, buildings, and property (other than land) are required to pay, in respect of their assessment to the lighting rate, a sum in the £ three times that paid by occupiers of land. So that, if the rate on other property is 6*d.* in the £, occupiers of land have to pay only 2*d.* in the £.

Failure, in rating such occupiers, to allow the partial exemption for which the Acts provide, would be a good ground of appeal against any of the three rates above mentioned.

BOARD OF AGRICULTURE.

Ensilage.

In view of the exceptional circumstances resulting from the drought of the spring and summer of this year, the Board of Agriculture consider it desirable to circulate information concerning the use of ensilage processes, and their value in providing winter and spring keep for stock.

The general impression prevailing upon the subject of ensilage is that it is only serviceable in wet seasons when hay cannot be properly made. But there are not a few agriculturists who make silage regularly either in silos, or in stacks, or in clamps every year, and speak highly of its value for feeding purposes.

The wet summer of 1888 gave a great temporary stimulus to ensilage, which was encouraged by the discovery that good silage could be made in stacks and clamps by a comparatively cheap and simple process. This year attention will be again very generally directed to ensilage in consequence of the unprecedented scarcity of grass and clovers for hay, and the failure of the ordinary crops for winter food caused by drought.

MATERIALS SUITABLE FOR SILAGE.

It may in some cases, it is believed, be too late to make hay of lucerne, second cuts of clover, sainfoin, and grass, as well as of Italian rye grass, grass and clover mixtures, and other crops sown when the drought ceased. All of these crops that can be spared from the immediate requirements of the farm stock may be advantageously made into silage. They should be allowed to stand as late as the weather will permit, for although it is acknowledged to be best to cut such crops as grass and clover for silage when in flower, the object must be to get the greatest possible bulk of material at this crisis.

Every particle of herbage upon farms should be cut for silage. Even weeds, sedge, and rushes should be utilized. Nettles have been successfully employed. The outsides of fields and the sides of hedges and other waste places should be brushed and the brushings ensiled. The leaves of some kinds of trees may also be ensiled. If the material is too coarse for actual silage it will be useful for topping up the silos, stacks, or clamps. Coarse grass in meadows, pastures, and under trees in orchards and elsewhere, which stock frequently reject, may be made into eatable silage. Hop bines should be ensiled directly the hops have been picked, while the sap is fresh. Maize and sorghum saccharatum are valuable ensilage materials.

PREPARATION OF MATERIALS.

Grass, clovers, oats, rye, lucerne, vetches, &c. require no preparation. They are simply mown as closely as possible and

carted to the silo, stack, or clamp, and put in, or on, and compressed as tightly as possible that the air may not penetrate between the layers. Hop-bines should be carted directly the hops have been picked, and much pressure applied to them. Where silos are available it would be well to cut hop-bines with the bine cutter used to cut them for manure, or they may be put into stacks or clamps whole, or cut into long lengths with this machine. Maize and sorghum are usually chaffed in fairly large lengths when put into silos. Maize ensiled whole in stacks or clamps turns out well if properly managed, even though the stalks are very large and thick.

Special machines may be obtained for chaffing silage materials, and elevators for stacking them.

METHODS OF ENSILAGE.

Since the publication of the *Summary of Replies to Questions on Silos and Ensilage in Great Britain* by the Agricultural Department in 1885 (C.—4536), and the *Reports of the Ensilage Commission* (H. C.—308 of 1885 and H. C.—119 of 1886), there have been very important changes in the methods of ensilage. At that time the only mode of making silage was to put it into silos, or pits,—receptacles with sides of brick, stone, or concrete. These were often too expensive for tenant farmers. Here and there, however, heads of barns, out-houses, and other buildings were converted into silos at a small cost. On large holdings it would be necessary to have these in various parts of the farm as the carting of green forage long distances would be very costly. But since the inexpensive and simple stack and clamp systems have been introduced, regular pit-silos have not materially increased in numbers.

SILOS.

Existing silos will naturally be made full use of in this emergency, and buildings that can be readily and economically converted may be made into temporary silos, as the silo system has certain advantages. There is generally not quite so much waste as in stacks and clamps, and it is easier to keep out air.

To get sweet silage the silo should be filled somewhat slowly to obtain a temperature of from 130° to 160°, which neutralises the acid fermentation. If the temperature falls much below this, sour silage is produced.

When silos are filled they are pressed down by machinery, or pressure is given by weights of various kinds that may be convenient, such as earth, bricks, stones upon planks and boards. Machinery for pressing has been patented by several manufacturers.

SILAGE STACKS.

In the wet weather of 1888, as it was impossible to make hay, attention was directed to the most inexpensive modes of making silage, and silage stacks of various shapes and sizes were hastily constructed in all parts of the country. Where ordinary care was taken the result was generally satisfactory, and the experience

of practical men in later years warrants the recommendation of the adoption of the stack system at the present crisis.

Silage stacks are made in the same way as ordinary hay stacks. The materials are carted and stacked either in circular, square, or oblong stacks. It is important to have great and regular pressure, which may be adjusted, or adjusts itself, as the mass shrinks. If this is obtainable, the materials may be put together as quickly as may be convenient. There are several patented methods of pressing, as by chain pressure, hydraulic presses, and lever appliances. Before pressing the material should be carefully levelled.

Silage stacks may also be made without special machinery. In this case the material cannot be put together so quickly, and every part must be most carefully and firmly trodden, especially that near the outsides. Poles may be pitched at the corners and sides of the stack, and braced together at the top to guide the stack makers. A framework of four large planks may be made round the poles and drawn up as the stack progresses by pulleys fastened to each end of the bracing at the top. This will keep the stack in shape, and allow the outsides to be well trodden down. The boards may be used to cover the stack when made, and heavily weighted with bricks, stones, or other weighty substances. The whole must be covered with straw or other covering to keep out the wet.

A well-known pioneer of the ensilage movement has given up silos and makes silage now entirely in round stacks. They are built slowly and not pressed nor weighted until complete. Rough grasses or weeds are used to top up, and a layer of these is put at the bottom. The surface is trodden down, and sand or earth is laid on the top to a depth of about six inches. A trench is dug round the stack if the surface drainage is not good, the earth from this serving to cover the silage. "No mode of compression has been found so good," this gentleman writes, "as earth or sand, it follows the ensilage down much better than any other mode of weighting. A little attention is necessary for a day or two, to see that it goes down without cracking. In building the stack it should be kept full in the middle, in order that it may finish convex." He also recommends the use of a mixture consisting of a layer of one load of oats, peas, beans, vetches, and Italian rye grass, alternating with a layer of two cartloads of meadow grass, the whole being cut or chaffed before being ensiled.

Dry earth may be spread either directly on the silage or on intervening sheets of Willesden paper. In this case no other covering will be required.

Materials for silage-stack-making should be used whole as a rule, and carted at once after cutting. Hop vines and other coarse material might be chaffed advantageously in longish lengths with a hop-bine cutter.

SILAGE CLAMPS.

These are simple and inexpensive receptacles of the green crops enumerated above. They are advocated by practical men

as most valuable, especially in times of emergency, and some stock-owners who have silos prefer to adopt clamps.

They may be made on slightly sloping ground by stumping out the required size, the length exceeding the breadth, and carting material for silage within this area. The carts must be drawn on and over the heap precisely as when a manure mixen is made, and tipped where material is required to fill up. They must be drawn as closely to the sides as possible so as to give pressure there. When the middle has risen too high for further carting the sloping ends are cut off and the material thrown on to the clamp, and levelled, and firmly trodden in. The outsides may be pared off, and the material treated in the same way. Then dry earth should be laid evenly upon the clamp, to a depth of 8-10 inches, either with or without an intervening layer of rough herbage, bracken, or leaves.

On dry soils a trench may be dug 3 ft. deep, and of length and width according to the quantity of material. This may be packed tightly into the trench by the carts being led over it. A heavy roller drawn over the mass will help to consolidate it. The soil from the trench can be used for covering and weighting the clamp. Practical men say that the material cannot be too juicy and even wet to make good silage by this process.

Old pits for chalking land, so numerous in chalk soil districts, form capital receptacles for silage. The carts should be led over the mass, which must be finally left in a somewhat conical form, and covered with earth to a depth of from 10 to 12 inches.

Where earth is used as a covering for silage stacks or clamps occasional inspection is necessary, as the earth sinks with the silage, and cracks are sometimes formed which must be filled up.

THE USE AND VALUE OF SILAGE.

Many stock-owners and cow-keepers make silage regularly and use it as a valuable addition to ordinary food for stock. In one instance an owner of 45 dairy cows has for some years kept his cows almost entirely upon silage made in stacks, with an allowance of oil cake. There is much other testimony as to its value for feeding milch cows as well as breeding ewes. For fattening beasts it has been proved that well made silage is at least of equal value with hay, and for lean stock of all kinds it may be used as a complete substitute for either hay or roots. Farm horses will do well on properly made silage.

It can be given either by itself, either cut or whole, or it can be chaffed with straw or hay. In the exceptional condition of the scarcity of hay and the shortness of the straw of all crops, there will be little of these to spare for cutting into chaff, and silage may be given alone, and must prove of inestimable value for supplying the quantities of bulky food that are absolutely essential for the digestion of ruminants and to keep them in health.

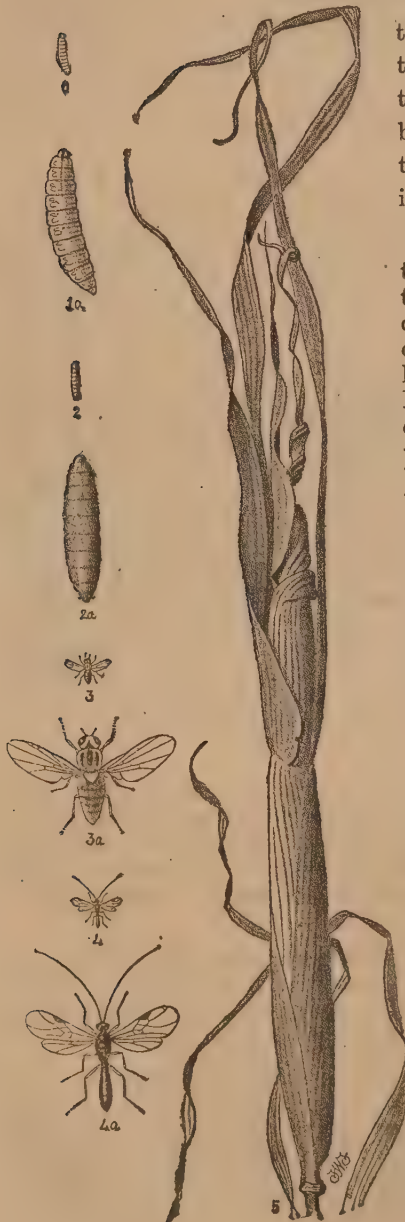
BOARD OF AGRICULTURE.

The Ribbon-Footed Corn Fly (*Chlorops Tæniopus*).

The Board of Agriculture desire to give publicity to the following observations respecting the Ribbon-Footed Corn Fly, and the methods of combating its attacks upon corn crops.

The larvæ or maggots of this fly, which is sometimes termed the "Gout Fly," cause an immense amount of harm to wheat and barley plants in some seasons. In 1893 the injury it occasioned to the barley crop was most serious, mainly because the plants were backward, and were kept in a backward condition on account of the extreme drought, and could not grow away from the attack of the maggots within them. Many hundreds of acres of barley were fed off with sheep, as the plants were so injured that they could not possibly recover and yield a crop. In many cases the yield of infested fields was next to nothing, the plants being stunted and distorted, as shown by Fig. 5, and the ears were unable to come through the sheathing leaves.

Upon examination of plants infested with the *Chlorops* larvæ, it was seen on taking off the sheathing leaves that the ear within was eaten away at its base, and that a furrow had been made from this point right



down the ear-stem to the first joint. At this part—or near this part—either the larva or the brown pupa case was found. The attack of *Chlorops* was earlier than usual, like that of most other insects in 1893, and many complaints were made of the presence of the larvæ between the 22nd and 30th of June. In former years it had not been noticed until the second week, and even the third week, of July.

THE LIFE HISTORY.

The fly is very small, being only about one-sixth of an inch long (Fig. 3, Fig. 3a mag.). It has three black stripes along the back. The male is of a light yellow hue, and is rather smaller than the female, which is of a somewhat greener colour. The eyes of the fly are large and green. The eggs, which are long, cylindrical, and greenish-white, are laid in May—early or late, according to the weather—upon the leaves which serve as sheaths of the forming ear. When the larva comes from the egg, it pierces its way through the leaves directly to the base of the ear, and feeds upon its sweet juices, checking its growth, and preventing it from pushing up through the leaves. Before the larva pupates, it makes a channel, or furrow, down the stem of the ear to the first joint, and changes to a chrysalis there, or in the folds of the sheathing leaves. In some cases, when the weather is forcing and the plants are pushed on by manure, the attacked ear has vigour enough to escape from its sheath, and it produces some corn. But in seasons like that of 1893, the plant has not vitality and vigour enough to force the ear out of its leafy envelope and away from the larva. The larva or maggot (Fig. 1, Fig. 1a mag.), has no legs; it is white, becoming slightly yellow in time, and is about the fifth of an inch in length. It has two spiracles at the end of its body, and two hooks at its head.

There is not more than one maggot in a stem. This, however, in conditions unfavourable to the growth of the plant, is quite sufficient to spoil the produce of one ear. In many sheath-bound ears examined in 1893, it was strange to note the immense amount of mischief one maggot had been able to accomplish.

The duration of the larval state varies according to circumstances. The pupa is brown, somewhat flattened, and about the same length as the maggot (Fig. 2, Fig. 2a mag.). It changes to a fly in about a fortnight, at least in confinement.

There are two or more broods of this insect during the year. The late generation of flies lay eggs upon grasses, and upon early-sown wheat and winter barley. It was only ascertained positively in 1890 that these crops were infested in this country in the autumn, though it has been long known that the *Chlorops taniopus* passes the winter in corn plants in Germany, Holland, and France.

METHOD OF PREVENTION.

The only methods of prevention appear to be to keep land clean from couch grass, and other common grasses, and not to put wheat or winter barley crops close to fields that have been infested, or not to put them in early. Though the flies have ample wings they do not fly far. Early sowing in infested districts is desirable, as it gives the plants a chance to grow away from the attack. In 1893, late sowing and slow growth, consequent upon the drought, afforded much opportunity to the larvæ.

REMEDIES.

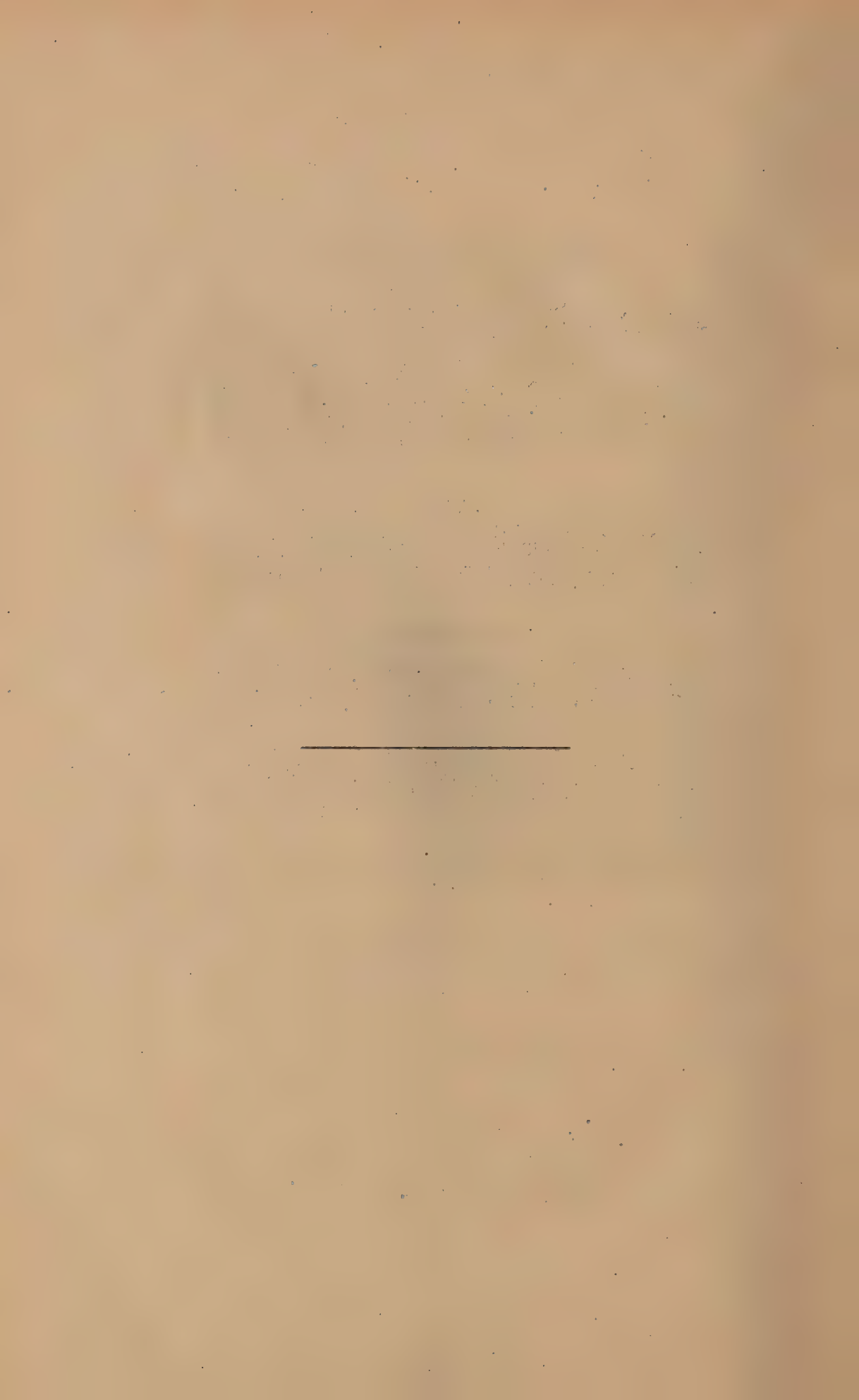
Nothing can be done in the way of remedies but to stimulate the plants infested with dressings of nitrate of soda, or sulphate of ammonia, or guano, to encourage rapid growth, and to force the ears from the sheaths.

NATURAL ENEMIES.

From many of the pupa cases of the ribbon-footed corn fly kept in glass covered boxes, a parasitic hymenopterous fly came forth. This fly (Fig. 4, 4a mag.), is known as *Calinius niger*, a pretty, brown insect about the fourth of an inch long, with brilliant wings. In the body of the corn-fly larva it places an egg, from which a larva is hatched, and feeds upon its host.

There is another fly, *Pteromarus micans*, parasitic in a similar manner upon the *Chlorops teniopus*, described by Curtis as being very destructive to it.

4, WHITEHALL PLACE, S.W.,
August 1893.



BOARD OF AGRICULTURE.

Anthrax.

The Board of Agriculture consider it desirable, in view of the recent increase in the number of outbreaks of anthrax, to publish the following observations as to this disease, for the information of stock owners:—

Anthrax is due to the entrance into the blood of a minute rod (bacillus), which is one of a large family of fungi, and grows from spores or seeds.

Any substance which is brought on to a farm may act as a carrier of the infecting agent: fodder, litter, manure, whether from home or foreign sources, may contain the spores. A water-course may carry the poison. In fact, the channels through which the infecting agent may be conveyed to the susceptible animal are beyond calculation.

Diseased animals do not transmit the infection to others in the ordinary way by association. The organism on which the disease depends must be introduced into the blood through a wound however small, or an abrasion however slight, before the affection can be communicated, and it may be said without exaggeration that the carcase of an animal, dead of anthrax, is more dangerous than the diseased animal was at any time during life.

SYMPTOMS AND POST-MORTEM APPEARANCES OF ANTHRAX.

In most cases the first sign of an outbreak of anthrax or splenic-fever is the discovery of a dead animal in the pasture or byre. Probably the animal was left a few hours before in apparent health; at least there was nothing to attract attention, or give any warning of the approaching catastrophe. Occasionally, and in the case of sheep not uncommonly, there are certain premonitory symptoms of an attack of anthrax which can be recognised by an expert. The affected animal is dull, and disinclined to move. If one of a herd or flock is attacked, the fact is indicated by the separation of the sick animal from the rest. Close observation will enable the observer to detect an occasional shiver, which seems to pass rapidly over the body, and then ceases. Sometimes a little blood is discharged from the nose and also with the fæces, and from time to time the animal will cease to feed, and stand with the head bent towards the ground. On closer inspection, especially in the case of swine, it will often be found that there is a good deal of swelling under the throat,

extending down the neck; and the swollen part will at first be tender to the touch, and hot, but as the disease goes on it becomes insensitive, cold, and clammy. The shivering fits now become more frequent, and perhaps, while these signs are being noted, the animal will suddenly roll over on its side, and, after a few violent struggles, expire.

According to the severity and suddenness of the attack, the post-mortem appearances will vary in degree, but they are tolerably uniform in kind. Under the skin there are usually patches of effused blood, and a considerable quantity of viscid serous fluid will be seen in those parts which were swollen during life. On opening the cavities of the chest and abdomen, some red serous fluid generally escapes. The spleen is enlarged to three or four times its proper size and is of a deep purple or black colour, soft and easily broken down. Effused blood is also found in masses under the kidneys, and red patches are seen in various parts of the serous membranes. The lining membrane of the intestines is often congested, and the contents are generally mixed with blood; sometimes, indeed, the intestinal canal is almost filled with this fluid.

The symptoms and post-mortem appearances which have been described may, as a rule, be accepted as evidence of the existence of anthrax. But when it is absolutely necessary to obtain proof of the presence of the bacillus anthracis in the blood a drop of that fluid from the spleen or heart should be placed on a glass slide covered with a piece of thin glass, and examined with a magnifying power of at least 400 diameters. The thin rods will appear like short pieces of fine thread crossing each other in every direction, and enclosing the blood corpuscles. This examination may be conducted in the shed or pasture, but in the laboratory staining processes are employed.

PROCEDURE.

In the case of an outbreak, slaughter of animals affected with or suspected of anthrax should at once be adopted without the shedding of blood, but in the majority of cases the diseased animals die too quickly to admit of the adoption of this measure.

The healthy animals on the pasture or other place where the outbreak occurred should be moved under proper restrictions to a convenient place for isolation, and should be examined by a veterinary surgeon every day for a week. If a rise of temperature is discovered in any of the isolated animals it should be removed from the rest, and if further symptoms of anthrax develop, the animal should be immediately slaughtered and buried.

Slaughter of healthy animals in contact is only justifiable under special circumstances, *i.e.*, where the animals are fat and fit for the butcher, or when the animals are few in number and

of little value, or the disease spreads rapidly and there are no means of proper isolation.

Antiseptics, such as hyposulphite of soda, have been administered to the in-contact animals with apparent advantage, and some practical men are in favour of bleeding largely in cattle to the extent of four or five quarts. These measures should, however, only be carried out under the advice and direction of a veterinary surgeon, and with regard to these and other preventive measures it may be said that it is impossible to determine the degree of efficacy which they possess, owing to the fact that anthrax frequently ceases after the loss of a few animals.

Inoculation on the system recommended by M. Pasteur could not be adopted except by an expert accustomed to operate, but the results of the operation when tried experimentally in this and some other countries have not been of such a nature as would warrant the Board in recommending it to stock owners as a means of dealing with outbreaks of anthrax.

DISPOSAL OF CARCASSES.

Carcasses of animals that have died or been slaughtered affected with anthrax should be dealt with in accordance with the provisions of the Anthrax Order of 1892, as follows:—

The carcase of every animal that was at the time when it died or was slaughtered affected with anthrax shall be disposed of by the local authority as follows:—

Either the local authority shall cause the carcase to be buried as soon as possible in its skin in some proper place at a depth of not less than six feet below the surface of the earth, and to be covered with a sufficient quantity of quicklime or other disinfectant.

Or the local authority may, if authorised by licence of the Board of Agriculture, cause the carcase to be destroyed, under the inspection of the local authority, in the mode following: The carcase shall be disinfected, and shall then be taken, in charge of an officer of the local authority, to a horse-slaughterer's or knacker's yard approved for the purpose by the Board, or other place so approved, and shall be there destroyed by exposure to a high temperature, or by chemical agents.

With a view to the execution of the foregoing provisions of this Article the local authority may make such Regulations as they think fit for prohibiting or regulating the removal of any carcase, or for securing the burial or destruction of the same: Provided that the power to make Regulations under this Article shall be exercised only by the local authority or their executive committee and shall not be deputed to any other committee or sub-committee.

Before a carcase is removed for burial or destruction under this Article it shall be covered with quicklime. In no case shall the skin of the carcase be cut nor shall anything be done to cause the effusion of blood.

Any method of destroying or disposing of the carcasses which involves skinning or cutting up should be avoided, as the disease is likely to be spread thereby and, in addition, people engaged in such work run a very serious risk of being inoculated with the disease.

CLEANSING AND DISINFECTION.

The following are the provisions of the Anthrax Order as regards the cleansing and disinfection of premises in which cases of anthrax have occurred :—

The local authority shall at their own expense cause to be cleansed and disinfected in the mode provided by this Article—

all those parts of any shed, stable, building, or other place in which a diseased or suspected animal has been kept or has died or been slaughtered;

every utensil, pen, hurdle, or other thing used for or about any diseased or suspected animal;

every van, cart, or other vehicle used for carrying any diseased or suspected animal on land otherwise than on a railway.

The mode of the cleansing and disinfection of such shed, stable, building, or other place, or the part thereof, shall be as follows :

All those parts aforesaid of the shed, stable, building, or other place, shall be swept out, and all litter, dung, or other thing that has been in contact with, or used about, any diseased or suspected animal, shall be effectually removed therefrom : then

The floor and all other parts of the shed, stable, building, or other place with which the diseased or suspected animal or its droppings or any discharge from the mouth or nostrils of the animal has come in contact, shall be, as far as practicable, thoroughly washed or scrubbed or scoured with water : then

The same parts of the shed, stable, building, or other place shall be washed over with limewash made of freshly burnt lime and water, and containing in each gallon of limewash four ounces of chloride of lime or half a pint of commercial carbolic acid, the limewash being prepared immediately before use ;

Except that where any place as aforesaid is not capable of being so cleansed and disinfected, it shall be sufficient if such place be cleansed and disinfected as far as practicable ;

The mode of the cleansing and disinfection of such utensil, pen, hurdle, or other thing, and such van, cart, or other vehicle aforesaid shall be as follows :

Each utensil, pen, hurdle, or other thing, van, cart, or other vehicle, shall be thoroughly scraped, and all litter, dung, saw-dust, or other thing shall be effectually removed therefrom : then

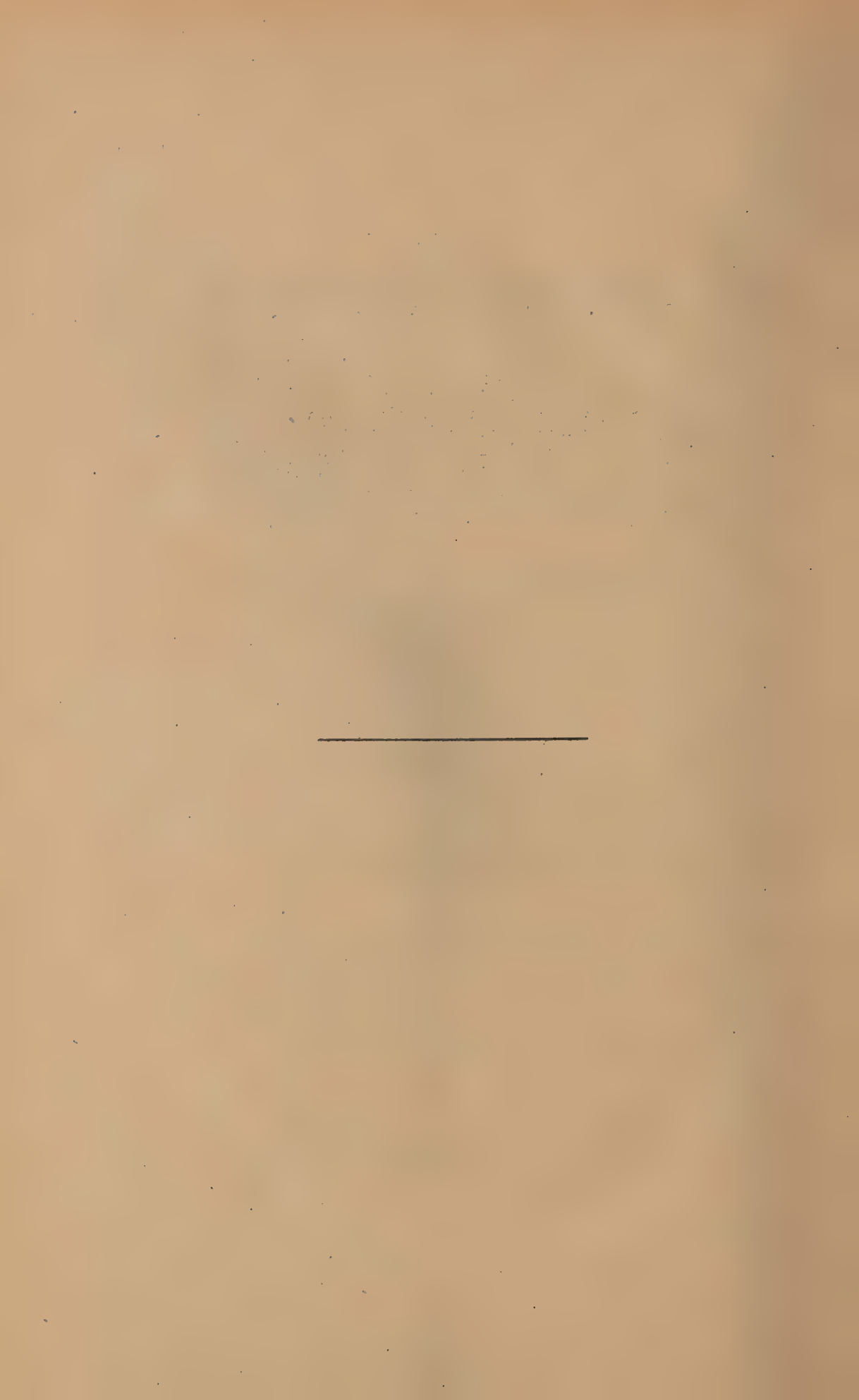
It shall be thoroughly washed or scrubbed or scoured with water : then

It shall be washed over with limewash made of freshly burnt lime and water, and containing in each gallon of limewash four ounces of chloride of lime or half a pint of commercial carbolic acid, the limewash being prepared immediately before use.

All litter, dung, or other thing that has been removed from any such shed, stable, building, place, van, cart, or vehicle as aforesaid, shall be forthwith burnt or otherwise destroyed or disinfected to the satisfaction of an inspector of the local authority.

In regard to the disinfection of fields and like places in which animals affected with anthrax have died or been slaughtered, there are serious difficulties which cannot be completely removed. A top dressing of lime is the most simple method which can be employed, and after a month or six weeks the lands may be restocked. But it must be understood that a certain degree of risk is incurred even after a much longer interval, and occasionally it has been found impossible to render contaminated land safe. In the majority of cases, however, the plan suggested will be effectual.

4, Whitehall Place, S.W.,
September, 1893.



BOARD OF AGRICULTURE.

The Gooseberry Saw-fly.—*Nematus ribesii*.

FIG. 1.



1 and 2. Larva in the two last stages.
3. The Cocoon. 4. The Fly.

The Gooseberry Saw-fly is a perfect pest in gooseberry plantations and gardens in some seasons. It also attacks red currant bushes, but not so frequently as gooseberry bushes. In many cases the leaves are completely riddled, or quite cleared off, together with the young fruit, and unless the plague is checked it is likely to be renewed in succeeding seasons with greater intensity. When it has been once established in large plantations it has been found most difficult to eradicate. This insect is common in many European countries, and appeared in America and Canada about thirty-five years ago. It has now spread over the greater part of the American continent, according to Professor Saunders, who believes that it was brought into America in the

earth adhering to the roots of imported gooseberry and currant bushes.

LIFE HISTORY.

The Fly (Fig. 1, No. 4) appears in April, early or late, according to the nature of the season. The female is rather more than the third of an inch in length, having a wing expanse of over half an inch. Its body is of the colour of honey. Its wings are iridescent, and the head and thorax are dark coloured. The legs are yellowish with black feet. The male is smaller than the female; its body is much narrower and darker in colour.

Greenish white eggs are placed close together by the sides of the ribs of the leaves, and fastened there with an adhesive substance. One female will lay a great number of eggs. The eggs can easily be seen without a glass. Larvæ come from the eggs in about eight days. They are only about one line—the twelfth of an inch—long at first, with disproportionately large heads, and they have twenty feet. The larvæ are white or pale coloured, with black spots on each side, but they soon become green with black heads. After the last moult they are very light green, except the first and anal segments, which are yellow. After feeding from sixteen to twenty days, the larvæ spin oval cocoons (Fig. 1, No. 3) of a brown colour, generally upon, or just beneath, the surface of the earth under the infested bushes. Occasionally the cocoons from the first broods of larvæ are found upon the stems and twigs of the bushes. It has been noticed that the cocoons of the summer broods are yellowish and yellowish-brown. The cocoons of the last broods are found deeper in the ground than those of the summer broods. In some seasons there are three generations.

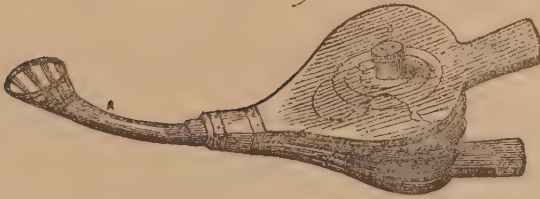
REMEDIES.

Hellebore is used with great advantage in this country and in the United States and Canada. The objection to this is that it is poisonous, and might be dangerous if it adhered in any quantities to the fruit of gooseberry and currant bushes. But it is used to a very great extent in the United States and Canada. Professor Saunders states that many thousands of pounds of hellebore have been used in America for the purpose of destroying this insect, and there is no case on record where injury has resulted from its use.

It is applied either as a powder with small bellows, or with a soufflet (Fig. 2).

FIG. 2.

BELLOWS, or Soufflet.



Or it may be mixed with water in the proportion of one oz. to one pail of water and applied with a garden engine, or with the machines used in large fruit plantations.

Syringing the bushes with a wash made of six lbs. of soft soap and the essence of six or seven lbs. of quassia chips boiled, mixed with one hundred gallons of water, has been found efficacious. A wash made of six lbs. of soft soap and three pints of paraffin to one hundred gallons of water has also proved beneficial. But it will be found necessary to syringe the bushes twice, or even more often, as larvæ are continuously hatched out from the eggs upon the leaves.

Lime freely dusted over infested bushes when wet with dew, or rain, has been of considerable advantage. Soot also may be applied, or soot and lime mixed in the proportion of one part of soot to three of lime, but this should not be put on when the berries are formed, as it is apt to adhere to them and spoil their colour and flavour.

The ground under and around infested bushes should be dressed with quicklime in the autumn, and dug deeply. Gas lime is also valuable for this purpose. To prevent the flies from coming up, gardeners sometimes stamp or beat down the earth in the early spring close round bushes that have been infested.

4, Whitehall Place, S.W.,
October, 1893.

Copies of this leaflet may be obtained free of charge on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.



BOARD OF AGRICULTURE.

Acorn Poisoning.

The attention of the Board of Agriculture has been called to the unusual abundance of the crop of acorns this season, and it is considered desirable to warn stockowners who are accustomed to turn cattle into parks, on to commons, or other places where acorns are plentiful, that there is considerable risk of injurious effects arising from the consumption of large quantities of acorns, which in the present dearth of herbage, owing to the long drought, are certain to be eaten with avidity.

In the years 1868, 1870, and 1884, which were remarkable for a large yield of acorns after a long dry and hot summer, serious losses among young cattle occurred from outbreaks of what is known as the acorn disease, or acorn poisoning. In many districts, notably in Middlesex, Kent, Hertfordshire, Warwickshire, Lincolnshire, Northamptonshire, Wiltshire, Gloucestershire, Devonshire, the New Forest, Sussex, Surrey, Suffolk, Norfolk, and Derbyshire, extensive outbreaks of the disease occurred. Young cattle up to two years old suffered most severely. Milch cows and cattle over three years old were seldom affected. Sheep and pigs appeared to be unsusceptible to the poisonous action of the seeds, and only two or three cases of the disease were reported in these animals, while entire herds of young cattle were attacked and a large proportion of them succumbed.

Acorn poisoning is quite distinct from indigestion due to eating an excessive quantity of acorns. This accidental disorder may occur in ordinary seasons when animals are first allowed access to pasture where acorns abound. But the true acorn disease is distinguished by progressive wasting, entire loss of appetite, diarrhoea, discharge of an excessive quantity of pale urine, sore places inside the mouth, discharge from the nostrils and also from the eyes, which are always sunken, giving to the animal a peculiar haggard expression. No fever is present from first to last, but, on the contrary, the temperature is commonly below the normal standard.

On post-mortem examination it is frequently noticed that all traces of the acorns have disappeared. The morbid changes are such as are seen when an irritant poison has been given.

Remedies of various kinds were tried in the great outbreaks of the disease, but no cure was discovered. Prevention is comparatively easy when the risk is realised. It is only necessary for absolute security to keep cattle from the pastures while acorns are falling. The danger will be materially lessened by collecting the acorns from the pastures, but this device does not

prevent a considerable consumption of the nuts which fall during the night. It has also been suggested that when cattle are only allowed access to acorns during the daytime they should be supplied with a liberal allowance of food before they are turned out. It cannot be affirmed that these plans have always proved successful in practice.

4, Whitehall Place, S.W.,
September 1893.

Copies of this leaflet may be obtained free of charge on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.

BOARD OF AGRICULTURE.

The Raspberry Moth (*Lampronia rubiella*).



Moth, magnified; line showing natural size. Caterpillar, magnified; line showing natural size.

The small red caterpillars of this moth are most destructive to raspberry canes. The culture of raspberries has enormously increased, as they have proved in some seasons to be a most profitable crop; their enemy, the raspberry moth, has multiplied in a proportionate degree. The production of this valuable fruit has been much decreased by its action in some seasons, and it has been consequently considerably dearer than other fruit, currants, strawberries, and cherries, for instance, as seen by the higher prices charged for raspberry jam when the insect has been troublesome. On many fruit farms the crop has been reduced from one-third to half in consequence of the attack of this insect. Fruit farms in Kent and other counties have been visited in the spring, upon which at least half of the buds of the raspberry canes had been destroyed. In some of the buds the caterpillars were still actively working, in some they had changed into pupæ. This is frequently the condition of many raspberry plantations in England and Scotland. Much mischief is often occasioned also in gardens and allotments where patches of raspberry canes are cultivated.

Upon close examination of the attacked raspberry canes, it will be seen that the soft juicy part at the base of the buds has been eaten away, so as to kill the buds and prevent their foliage and blossoms from being put forth. There is also a hole in the cane at the base of the buds, in which the pupa will be found ensconced.

DESCRIPTION OF THE MOTH.

The *Lampronia rubiella*, or raspberry moth, belongs to the family *Tineidæ*, of the group *Tineina*. It is a most beautiful moth, of a light brown colour, with a series of spots like burnished gold upon its fore wings.* The hinder wings are slightly lighter in colour, with light fringes. It is barely half an inch across its wings, and its body is only

* Delta, in the "Entomological Magazine," describes this moth as *maculis insignis et auro*.

about the fourth of an inch in length. It may be seen towards the end of May, or the first week of June, flying round the raspberry canes.

LIFE HISTORY.

The moth places her eggs upon the flowers of the raspberry canes at the end of May, or in the beginning of June. After five or six days the caterpillar may be found in the raised white receptacle upon which the fruit, or more correctly the collection of little fruits composing the raspberry, is formed. The caterpillar does not appear to injure the fruit, nor, indeed, to feed at all at this time. Mr. Stainton, in his *Manual of Butterflies and Moths*, says that the caterpillar hibernates without feeding. When it is fully grown the caterpillar makes its way out of the receptacle, either by crawling or by letting itself down by silken cords to the earth beneath the canes, and passes the winter in a case, or kind of cocoon. It emerges from this state of hibernation on the first approach of spring,* and crawls up the raspberry canes, and getting to the buds, worms itself into these at their bases, and makes up for long autumn and winter months of fasting by feeding upon them. Dr. Chapman states that the caterpillar leaves the hibernating cocoon in March, early or late, according to the season.

When the time arrives for pupation, the caterpillar scoops out a hole in the pith of the canes, just below the bases of the buds, in which it turns to a chrysalis.

From a quantity of pieces of raspberry canes, whose buds were badly infested with caterpillars, sent on the 8th of May, and kept in a glass case, moths came forth on the 9th of June. That there might be no possible doubt as to their identity, some were sent to Mr. Stainton, who pronounced them to be *Lampronia rubiella*.

The larva is close upon a quarter of an inch long, decidedly pink in colour for the most part, though the shade of colour varies somewhat in individuals, and becomes more red in most larvæ as they get older. The head is black. There is a patch of black on the first segment. It has three pairs of black feet on the thoracic segments. The pro-legs number four pairs, and there is a pair of anal feet.

The pupa is exactly the fourth of an inch long, tapering somewhat unusually, and has a curious spine upon the back on the last segment.

METHODS OF PREVENTION AND REMEDIES.

The caterpillars are just under the surface of the ground, around and among the stocks of the raspberry canes. As it has been shown, they remain there from about midsummer until March. Therefore, forking the ground round and between the stocks deeply with a pronged fork, or even hoeing it with a three-toothed hoe would destroy some and bury others so deeply that they could not get forth.

Dr. Chapman has suggested the following practical method of prevention: "The caterpillars are in the crown of the stock, or near it, and under rubbish there collected. Rake this away, and turn the earth the stock up again, and you will thus bury them, and most will perish."

Soot, lime ashes, or soot and lime mixed, which form a pungent compound, might be forked or hoed into the ground in the autumn or winter.

* In 1892 caterpillars of the *Lampronia rubiella* were first found in raspberry buds on April 10th.

Raspberry canes in field culture are nearly all cut away, so that there are but few canes or stems left. It would be easy, therefore, to put a little thick soft soap composition containing paraffin oil, or carbolic acid, or some other offensive stuff, with a large paint brush, upon the lower part of each cane that is left, in order to prevent the caterpillars from crawling up. They are very small, and the least obstruction of a disagreeable nature, it is believed, would stop their progress.

Cutting off and burning the infested stems while the caterpillars are in the buds or receptacles, between April and the middle of June, would destroy many caterpillars. This may be very freely done, as raspberry canes throw up plenty of shoots to take the place of those cut away.

4, Whitehall Place, London, S.W.,
October 1893.

Copies of this leaflet may be obtained, free of charge, on application to the Secretary, Board of Agriculture, 4, Whitehall Place, S.W.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of a solution of the system of equations (1) for arbitrary values of the parameters α and β . It is shown that the system has a solution for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied. In this case the solution is unique and is given by the formula

$$x = \frac{1}{\alpha + \beta} \left(\alpha \frac{1}{1 - \alpha} + \beta \frac{1}{1 - \beta} \right).$$

BOARD OF AGRICULTURE.

A $\frac{15-93}{I.}$

The Apple Blossom Weevil (*Anthonomus pomorum*).



a, Weevil, nat. size; b, magnified. c, Larva, nat. size; d, magnified. e, Pupa, nat. size; f, magnified. g, Larva in blossom bud.

This insect very frequently causes much harm to the apple and pear crops, and in the last few years its injuries have much increased in fruit-producing districts, and have been often attributed to the caterpillars of the Winter Moth. Close examination of the blossoms, however, would show that the larvæ, or little yellow maggots, of the weevil were in the centres of the flowers, (Fig. g), destroying their powers of fructification, though at the same time caterpillars might be feeding upon the blossoms and leaves. The action of this weevil upon the fruit-blossoms of apple and pear trees is also mistaken for the effects of white frosts, when the petals have become brown or rust-coloured; but if the blossoms are closely inspected, either the little yellow pupa of the weevil (Fig. e) will be found in them, or a little round hole in the side of the withered flower-bud will be noticed, showing that the perfected weevil has cut its way out of its cradle.

Incredible damage is often caused by this weevil in apple and pear orchards in France. In some Departments, syndicates of defence against it have been formed, (Syndicats de défense contre l'Anthonome), consisting of a committee in each Commune, to carry out a series of operations calculated to destroy this dangerous enemy, as it is felt that it is only by united action among cultivators that injurious insects of this and other kinds can be stamped out.

Description.

The apple-blossom weevil is very small, only the fourth of an inch long, and the eighth of an inch in breadth (Fig. *a*). It is reddish, or chestnut brown, with down or pubescence of a greyish hue upon its body. Occasionally specimens are found almost pitchy in colour. The wing-cases have pale marks upon them below the middle. There is a conspicuous white mark, or scutellum, at the base of the wing-cases. The legs are reddish; the thighs of the first, (or anterior), pair, are large and furnished with a formidable tooth on each; the feet, or tarsi, are of a darker colour. The rostrum, or snout, is the most remarkable feature, being half as long as the body, slightly curved, with antennæ near its extremity furnished with oval clubs having four joints.

Like many other weevils it falls down when disturbed, tucks in its legs and snout, and remains motionless, feigning death until the danger has passed.

Life History.

In the first warm days of spring the weevils issue from their winter retreats, and find their way to the apple and pear trees. Some authorities consider that the females seldom use their wings, and that only the males fly freely. Others hold that both sexes fly equally well.

The female, either by flying or crawling, finds its way to the blossom-buds of apple and pear trees, and boring a hole either with its snout, as Curtis and others affirm, or, according to some observers, with a stylet placed at the end of its body, it places one egg within each bud, and carefully closes up the hole. A female lays from 15 to 20 eggs, but places one only in each flower-bud. The process of laying one egg takes about three-quarters of an hour. The egg is yellowish and oval. Authorities agree that oviposition in an individual female may extend over a fortnight at least. The eggs are hatched in from five to nine days.

The larva, or maggot, is without feet, and is about the third of an inch long (Fig. *c, d*). It is wrinkled, and white at first, gradually becoming yellowish. It has a brown head with two little brown spots on the first segment. It lies in the bud in a curved form, and attacks the stamens and pistils, but rarely touches the ovary. It soon causes the petals to wither; the flower-bud changes to a rusty hue, and decays.

The larva in from 8 to 10 days turns into a pupa, which is nearly a quarter of an inch long, of a yellow colour, with a long beak, or rostrum, and feet folded on the under side of its body (Fig. *e, f*). This state lasts for about 10 days, when the weevil appears and escapes through a hole which it bores in the petals.

After this, the weevils live among the leaves of the fruit trees. It is not known whether they feed upon their leaves. A French savant, Dr. Henneguy, concludes from careful observation that they do not feed at all, but live upon a reserve of fat, *corps gras*, stored up in their bodies during their previous state. They are not seen after the end of September, retiring for hibernation to chinks in the bark of pear and apple trees, also in lichenous and mossy growths upon their branches, as well as under stones and rubbish beneath and around the trees, and in other similar refuges. They probably also pass the winter under the bark of other trees as they have been found upon oaks in the summer.

Circumstances of the Attack.

According to natural instinct, the weevils do not appear until the weather is mild and the flower-buds have begun to swell. If the season

is and continues warm and growing, the effects of the attack are usually of a slight character. But should the weather be cold and changeable, as is so often the case in Great Britain and the north and western parts of France, the flower-buds are slowly developed, and the weevils consequently have time to lay their full complement of eggs, whose period of hatching is accomplished before the flowers are fully evolved.

Varieties of apple trees which blossom very early and very late are more likely to escape the attacks of the weevil than those of the main crop whose blossom comes late in May in ordinary seasons.

Methods of Prevention, and Remedies.

One mode of prevention is to spray the limbs and branches of apple trees, between October and February, with a solution of sulphate of iron, to destroy the lichens and mosses which serve as harbours for this weevil and other insects. One pound of sulphate of iron should be put to one gallon of water. This can be thrown up over the trees by means of a garden engine with a powerful pump.

Lichens and mosses upon fruit trees may be killed by throwing up freshly slaked powdered lime over the branches in damp weather in winter. This can be done by men having tin scoops, like small flour scoops, fastened upon long poles.

All long grass, leaves, and rubbish should be cleared away underneath fruit trees on grass land, and on cultivated land it would be useful to apply lime, lime ashes, or lime and soot, and dig it in around the trees.

Assuming that Curtis, Schmidberger, and others are correct in their belief that the female weevils cannot fly, or rather do not care to exercise their power of flight, greased or tarred bands of grease-proof paper put round the fruit trees would prevent their ascent.

It would be well to adopt the practice of orchardists in Brittany, who take off the rough bark of the trunks and large branches of the fruit trees with scrapers, and brush every part with stiff carpet brushes. They place cloths round the tree to catch the pieces of bark and the weevils that are dislodged; these are collected and burnt. Sometimes limewash is put on the trees after the scraping. Others apply compositions of lime and naphthaline or petroleum.

Lime-washing the trees is not effective against insects unless the rough bark is cleared off and the lime-wash thoroughly worked into every cranny while it is fresh.

It is most difficult to use insecticides, and insectifuges, with advantage, as compositions that are strong enough to kill or drive away the weevils would probably injure the tender buds. After the larva is within the bud it is hopeless to attempt to reach it.

A mode of decreasing the number of weevils adopted in France consists in shaking the branches to make the insects fall on to cloths spread below. Cloths—old rick-cloths being best—are cut and arranged so as to fit close round the trunks of the trees. Labourers get into the trees and shake the branches violently, and others, with the aid of long poles with hooks at the ends, shake the branches within reach. The cloths are quickly swept with brooms, and the débris and the weevils are shovelled into sacks. This must be done rapidly, before the weevils can fly away. It is said that four men and two boys treated 110 trees in a day in this manner.

From experiments made, it has been found necessary to perform this operation two or three times on each tree, as all the weevils are not

shaken off at once. From a tree, for instance, from which at the first shaking 1,000 weevils had fallen, 385 were shaken off five hours later. In one orchard of 8 acres, having 347 trees, nearly 450,000 weevils were destroyed in three days, at a cost of 1*l*. A satisfactory crop of apples was obtained.

It should be pointed out that this operation must be carried out before the weevils have laid their eggs, and upon their first appearance, commencing with the earliest varieties.

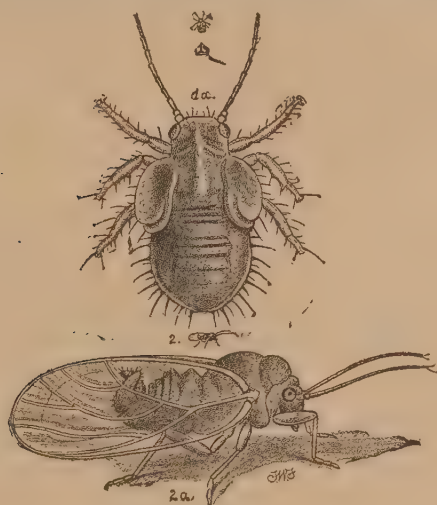
This mode of destroying the apple-blossom weevils might be advantageously practised in Great Britain. It might also be useful in case of attacks of Winter Moth and other caterpillars. It need hardly be pointed out that the fruit growers in districts should combine to wage war in this fashion simultaneously, and with care and energy.

4, Whitehall Place, London, S.W.,
October 1893.

Copies of this leaflet may be obtained, free of charge, on application to the Secretary, Board of Agriculture, 4, Whitehall Place, S.W.

BOARD OF AGRICULTURE.

The Apple Sucker (*Psylla mali*, Förster).



1, larva, nat. size. 1a, larva after third moult, much magnified. 2, perfect insect, nat. size. 2a, much magnified.

This insect is frequently the unsuspected cause of much injury to the apple crop. Its larvæ, which cause the mischief, are so small and so closely concealed in the buds, that they may be easily passed over by casual observers. Their action upon the flower and leaf buds is often confounded with that of the caterpillars of the winter-moth and the larvæ of the apple-bud weevil, which appear at about the same time.

The *Psylla* larvæ may be seen by careful inspection within the folds of the buds actively engaged in sucking up the juices and preventing the development of leaves and blossoms. The exhaustion of the juice and sap, and the irritation set up by the larvæ, soon cause decay and prevent the fructification of the blossom buds.

Although the *Psylla mali* has been known in Great Britain for a long while, it is only somewhat recently that it has been

recognised as a serious trouble to apple growers. It seems to have rapidly increased in the past four or five years. It is well known in many European countries. In Germany it has done considerable harm, and the well-known economic entomologists, Schmidberger and Taschenberg, have written able treatises upon it. It is not known in America, but an allied species known as *Psylla pyricola* is very destructive in pear orchards in that country, and has been elaborately described by Professor Slingerland, of the Cornell University Agricultural Experiment Station at Ithaca, in the State of New York.

Life History.

Many persons have, there is no doubt, noticed quantities of little yellowish, or greenish-yellow, fly-like insects upon the leaves of apple trees in September and October, which upon being approached give a leap before using their wings to carry them to another leaf. These, in a certain degree, resemble some of the "frog-hoppers"—species of *Cercopidæ*—and, in fact, they have been mistaken for them, but upon close examination they are very different.

The winged *Psylla*, the perfect insect, is seen first about the second week in June. Its colour is green, for the most part, with slight tinges or shades of yellow. The colour, however, is rather variable, differing according to the sex and the stages of growth. At some periods there are shades of yellow, green, red, or brownish red, noticeable upon the body. These are more pronounced at pairing time. The female is more brightly coloured than the male. The wings are transparent, or slightly testaceous, and the legs and antennæ are yellow, the latter having two and sometimes four dark coloured joints at the ends. The male is about one line, the twelfth of an inch, in length; the female is slightly larger. Pairing takes place in September, and the eggs are laid in some seasons even up to November. In the autumn of the abnormal year 1893 females were seen laying eggs as late as the 3rd of November. In this case the eggs were laid upon the youngest shoots, and this appears to be the usual place where they are deposited. They may also be put upon older shoots and upon branches, but it would be difficult to discover them there on account of the deeper furrows, cracks, mossy and lichenous growths.

As a rule, the eggs are laid singly and imbedded in the fine hairs upon the epidermis of the shoots. Occasionally there are two or three together in a row. The eggs are white, or slightly yellow, pointed at each end. Taschenberg says, they become red, or yellowish red, in the spring, just before the larvæ come from them.

The eggs remain until the weather becomes springlike, when tiny flat larvæ emerge from them and at once get into the nearest buds. When the buds expand, the larvæ are found within them feeding upon their juices. The formation of fruit is prevented by their continuous suckings, and the blossoms shrivel up and fall off. The buds become filled, after a while, with a dirty glutinous fluid, termed "honeydew," which escapes from the larvæ, like the fluid secreted by several species of Aphides, and is mixed with the excretions of the larvæ.

At first the larvæ are very small, having flat, dirty yellow bodies, with brown, or dark, spots upon them, and but little trace of rudimentary wings, or wing cases. Their eyes are red and their feet brown.

The first change, or moult, soon occurs, but there is then no very material difference in the larva. After a few days, when the second moult is accomplished, the larva becomes light green, and its rudimentary wings are clearly defined.

After about another week, with the third moult, the rudimentary wings are more developed, as seen in the Fig. 1a, and the eyes and tips of the antennæ become dark.

From the first appearance of the larva up to about a month there are continuous changes in its form. At the end of this time what may be termed pupation takes place, the larva is quiescent for a few hours, the skin is cast off, and the winged *Psylla* comes forth.

When the first moult is over, the larva is seen to be covered with fine down, or hairs, apparently to protect it from wet and injury when the buds have expanded.

The perfect *Psylla* passes a somewhat long and monotonous existence, as it seems, from June until pairing time in September. Taschenberg inclines to the belief that there may be another generation during the summer, and it certainly is strange that the insect should pass so many weeks in apparent inactivity. Schmidberger, however, who is still the chief authority upon the subject, does not hint at a second generation.

Prevention and Remedies.

It has been found impossible to affect the eggs of the *Psylla* upon the twigs. Like the eggs of many other insects, they are protected by hard shells. Professor Slingerland tried many washes of turpentine, kerosene, carbolic acid and potash, &c. which injured the buds, but did not have the slightest effect upon the eggs of *Psylla pyri*.

In the case of the early sorts of apples, infested trees might be sprayed with disagreeable washes of soft soap and quassia, or soft soap and paraffin, directly the apples were picked, to prevent

the Psyllæ from laying eggs upon the shoots. The formulæ for these washes would be :—

I.

6 lbs. of soft soap.
8 lbs. of extract of quassia chips.
100 gallons of water.

II.

6 lbs. of soft soap.
4 gallons of paraffin.
100 gallons of water.

In mixing the latter the soap should be boiled in a small quantity of water, and the paraffin put into it while hot, and then stirred together rapidly, or passed through a syringe, or force pump. This may be diluted afterwards in the proper proportion.

Carbolic acid might be used instead of paraffin, at the rate of 3 gallons to 100 gallons of water.

Some small amount of prevention would ensue from pruning trees on which eggs had been laid. On young small trees this might be useful, and it would probably be advantageous to prune such trees, if infested, more closely than usual. But in the case of large orchard trees, it would be impossible to rely upon this mode of prevention.

Spraying when the buds are open, and the larvæ exposed, would be efficacious to some extent. The wash would run down into the bases of the open flower-buds and of the expanded leaf-buds, and make the quarters of the insects unpleasant, or destroy some of them. The quassia wash, as formulated above, would act as it does in the case of hop aphides, by making the food bitter and unpleasant. The paraffin and the carbolic washes would also effect this, and kill the larvæ probably with which they came in contact. Spraying should be done as early as possible in the course of the attack, before much "honeydew" has been exuded, which would hinder the action of the washes.

4, Whitehall Place, London, S.W.,
December 1893.

Copies of this leaflet may be obtained free of charge on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.

BOARD OF AGRICULTURE.

Preservation of Commons.

The Board of Agriculture call attention to the recent Act of Parliament amending the law relating to Commons with a view to their better preservation and in connection with previous enactments.

By the Law of Commons Amendment Act, 1893, lately passed, it is enacted that an inclosure or approvement of any part of a Common purporting to be made under the Statute of Merton and the Statute of Westminster the second, or either of such statutes, shall not be valid unless it is made with the consent of the Board of Agriculture, who in giving or withholding their consent are to have regard to the same considerations, and are if necessary to hold the same inquiries, as are directed by the Commons Act, 1876, to be taken into consideration and held by the Board before forming an opinion whether an application under the Inclosure Acts shall be acceded to or not.

By the 6th section of the Copyhold Act, 1887, the lords of manors were forbidden to make grants of land not previously of copyhold tenure to any person to hold by copy of court roll or by any tenure of a customary nature without the previous consent of the Land Commissioners (now the Board of Agriculture), who in giving or withholding their consent were to have regard to the same considerations as are to be taken into account by them on giving or withholding their consent to any inclosure of common lands.

By the 31st section of the Commons Act, 1876, it is provided that any person intending to inclose or approve a Common, or part of a Common, otherwise than under the provisions of the Act, shall give notice to all persons claiming any legal right in such Common or part of a Common by publishing at least three months beforehand a statement of his intention to make such inclosure, for three successive times, and in two or more of the principal local newspapers in the county, town, or district in which the Common or part of a Common proposed to be inclosed is situate.

It follows from the above enactments that an inclosure of part of a Common, whether purporting to be made under the Statutes of Merton and Westminster the second, or either of them, by way of approvement on the ground of sufficient pasture being left for the commoners, or under copyhold grant founded on a custom of the manor, cannot now be

legally made without the consent of the Board of Agriculture, who in giving or withholding their consent are to have regard as well to the benefit of the neighbourhood as to private interests; and that any person intending to make such an inclosure should publish notice of his intention in the local newspapers.

4, Whitehall Place, London, S.W.,
December 1893.

Copies of this leaflet may be obtained free of charge on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.

A¹⁸⁻⁹³
I.

BOARD OF AGRICULTURE.

FERTILISERS AND FEEDING STUFFS ACT, 1893.

The Board of Agriculture consider it desirable to give publicity to the provisions of the Fertilisers and Feeding Stuffs Act, which comes into force on and after the 1st day of January 1894, and extends to Great Britain and Ireland.

The provisions of the Act, which applies to wholesale as well as retail sales, may be classified as follows:—

- (1.) Provisions relating to the warranty to be implied on the sale of a fertiliser or feeding stuff;
- (2.) Provisions relating to taking samples and obtaining analyses; and
- (3.) Provisions relating to offences, penalties, and legal proceedings.

PROVISIONS RELATING TO THE WARRANTY TO BE IMPLIED ON THE SALE OF A FERTILISER OR FEEDING STUFF.

Every person who sells a fertiliser (*i.e.*, any article sold as a fertiliser of the soil) which has been manufactured or subjected to any artificial process in the United Kingdom, or imported from abroad, is required to give to the purchaser an invoice stating the name of the fertiliser, and whether it is artificially compounded or not, and what is, at least, the percentage of the nitrogen, phosphates soluble and insoluble (*i.e.*, in water), and potash, if any, contained in the fertiliser, and this invoice is to have effect as a warranty by the seller of the statements contained therein. This provision does not apply to a sale where the whole amount sold at the same time weighs less than half a hundredweight.

Every person who sells a feeding stuff (*i.e.*, any article sold for use as food for cattle) which has been artificially prepared,

is required to give to the purchaser an invoice, stating the name of the feeding stuff, and whether it has been prepared from one substance or seed, or from more than one substance or seed, and this invoice is to have effect as a warranty by the seller of the statements contained therein.

Where any feeding stuff is sold under a name or description implying that it is prepared from any particular substance, or from any two or more particular substances, or is the product of any particular seed, or of any two or more particular seeds, and without any indication that it is mixed or compounded with any other substance or seed, there is to be implied a warranty by the seller that it is pure, that is to say, is prepared from that substance or those substances only, or is a product of that seed or those seeds only.

On the sale of any feeding stuff, there is to be implied a warranty by the seller that the article is suitable for feeding purposes.

Any statement by the seller of the percentages of nutritive and other ingredients contained in any feeding stuff, made after the commencement of the Act in an invoice of such feeding stuff, or in any circular or advertisement descriptive of such feeding stuff, is to have effect as a warranty by the seller.

For the purposes of the Act, the expression "cattle" means bulls, cows, heifers, calves, sheep, goats, swine, and horses.

PROVISIONS RELATING TO TAKING SAMPLES AND OBTAINING ANALYSES.

The Act provides for the appointment of a Chief Analyst by the Board and of District Analysts by Local Authorities.

Every purchaser of any fertiliser or feeding stuff, on payment to a District Analyst of a fee sanctioned by the body who appointed the Analyst, is entitled, within ten days after delivery of the article to the purchaser, or receipt of the invoice by the purchaser, whichever is later, to have the article analysed by the Analyst, and to receive from him a certificate of the result of his analysis in the form prescribed by the Board.

Where a purchaser desires to have an article thus analysed, he may, in accordance with regulations made by the Board, take three samples of the article for the purpose of analysis.

A copy of the Fertilisers and Feeding Stuffs Regulations, 1893, which have been made by the Board, appears at the end of this leaflet. These Regulations must be strictly followed by any purchaser who takes the samples himself.

The Act provides, however, that a District Analyst, or some person authorised by him in that behalf, with the approval of the body who appointed the Analyst, shall, on request either by the purchaser or by the seller, and on payment of a fee sanctioned by the said body, take the samples on behalf of the purchaser.

It will be observed that a purchaser has the option of setting the Act in motion by merely sending to the District Analyst, within ten days after delivery of the article to him or receipt of the invoice, whichever is later, a notice in writing stating that he desires that the samples shall be taken by the District Analyst, and also stating the names and addresses of the purchaser and the seller, and such particulars as may be necessary to enable the District Analyst to identify the article to be analysed.

The purchaser is, at or before the time when the samples are thus taken, to supply the District Analyst with the invoice or a copy thereof, and also, in the case of a feeding stuff, with any circular or advertisement of the seller descriptive of the article to be analysed, which the purchaser may wish the District Analyst to consider in making his analysis and giving his certificate.

When the purchaser intends to take the samples himself, he is to give three days' notice in writing of such intention to the seller, with particulars as to the place, day, and hour of sampling. If the seller does not attend, the samples are to be taken in the presence of a witness, who is to initial each sample.

The purchaser is, immediately to deliver or send by post to the District Analyst one of such samples, with a report of the case, the invoice, or a copy thereof, and also, in the case of a feeding stuff, any circular or advertisement of the seller descriptive of the article to be analysed, which the purchaser may

wish the District Analyst to consider in making his analysis and giving his certificate. One of the remaining samples is to be delivered or sent by post to the seller, and the other is to be retained by the purchaser.

All samples are to be so packed and secured that they cannot be tampered with, and to be sealed and initialed by the person taking the sample, and numbered consecutively, and they may also be sealed by the purchaser and the seller, if present and so desiring. Each sample is to be endorsed with the name of the article, and the date and place of the sampling.

Where any samples are taken in the presence of, and sealed by, the seller as well as the purchaser, such samples are to be deemed, as between the purchaser and seller, to have been taken in accordance with the above-mentioned Regulations.

If the seller or the purchaser objects to the certificate of the District Analyst, one of the samples selected, or another sample selected in like manner, may, at the request of the seller, or, as the case may be, the purchaser, be submitted to the Chief Analyst with the invoice or a copy thereof and any such circular or advertisement as above-mentioned, and the seller, or, as the case may be, the purchaser, is, on payment of a fee sanctioned by the Treasury, entitled to have the sample analysed by the Chief Analyst, and to receive from him a certificate of the result of his analysis. The fees approved by the Treasury for analyses by the Chief Analyst are, One guinea for each of the more difficult and complex samples, and half a guinea for each of those of a simpler character, the Chief Analyst determining in each case whether the higher or lower fee shall be charged.

The costs of and incidental to obtaining any analysis in pursuance of the above provisions are to be borne by the seller or the purchaser in accordance with the results of the analysis, and to be recoverable as a simple contract debt.

PROVISIONS RELATING TO OFFENCES, PENALTIES, AND LEGAL PROCEEDINGS.

Section 3 of the Act makes the seller of any fertiliser or feeding stuff liable (without prejudice to any civil liability), on summary conviction, to a fine not exceeding 20*l.* for a first offence, and for any subsequent offence to a fine not

exceeding 50%, if he commits any of the following offences; namely,—

- (a.) Fails without reasonable excuse to give, on or before, or as soon as possible after, the delivery of the article, the invoice required by the Act; or
- (b.) Causes or permits any invoice or description of the article sold by him to be false in any material particular to the prejudice of the purchaser; or
- (c.) Sells as a feeding stuff any article which contains any ingredient deleterious to cattle, or to which has been added any ingredient worthless for feeding purposes and not disclosed at the time of the sale.

In any proceeding for an offence under this section it will be no defence to allege that the purchaser, having bought only for analysis, was not prejudiced by the sale.

A person alleged to have committed an offence under the preceding provisions in respect of an article sold by him, will be entitled to the same rights and remedies, civil or criminal, against the person from whom he bought the article as are available to the person who bought the article from him, and any damages recovered by him may, if the circumstances justify it, include the amount of any fine and costs paid by him on his conviction, and the costs of and incidental to his defence on such conviction.

If any person knowingly and fraudulently—

- (a) tampers with any parcel of fertiliser or feeding stuff so as to procure that any sample of it taken in pursuance of the Act does not correctly represent the contents of the parcel; or
- (b) tampers with any sample taken under the Act;

he will be liable, under section 6 of the Act, on summary conviction to a fine not exceeding 20% or to imprisonment for a term not exceeding six months.

Section 7 of the Act provides that a prosecution may be instituted either by the person aggrieved or by the Local Authorities, or by any body or association authorised in that behalf by the Board, but that in the case of an offence under section 3 of the Act, no prosecution shall be instituted by the

90 FERTILISERS AND FEEDING STUFFS ACT, 1893.

person aggrieved or by any body or association except on a certificate by the Board that there is reasonable ground for the prosecution.

It also provides that any person aggrieved by a summary conviction under the Act may appeal therefrom in accordance with the provisions of the Summary Jurisdiction Acts.

At the hearing of any civil or criminal proceeding with respect to any article analysed in pursuance of the above provisions, the production of a certificate of the District Analyst, or, if a sample has been submitted to the Chief Analyst, then of the Chief Analyst, will be sufficient evidence of the facts therein stated, unless the defendant or person charged requires that the Analyst be called as a witness.

4, Whitehall Place, London, S.W.,
December, 1893.

Copies of this leaflet and of the Regulations may be obtained, free of charge, on application to the Secretary, Board of Agriculture, 4, Whitehall Place, S.W.

FERTILISERS AND FEEDING STUFFS REGULATIONS, 1893.

BY THE BOARD OF AGRICULTURE.

The Board of Agriculture, in pursuance of the provisions of the Fertilisers and Feeding Stuffs Act, 1893, do hereby make the following Regulations as to samples to be taken under the said Act.

Commencement.

1. These Regulations are to take effect from and after the first day of January one thousand eight hundred and ninety-four, and to remain in force until altered or revoked by the Board of Agriculture.

Definitions.

2. In these Regulations:—

“District Analyst” includes any person authorised by the District Analyst to take samples, with the approval of the body who appointed the District Analyst.

“Buyer” and “seller” include their respective agents.

“Fertiliser” means any article sold for use as a fertiliser of the soil, which has been subjected to any artificial process in the United Kingdom or imported from abroad.

“Feeding stuff” means any article sold for use as food for cattle which has been artificially prepared.

Other terms have the same meaning and scope as in the above-mentioned Act.

Proceedings by Buyer to procure Samples.

3. When the buyer of not less than half a hundredweight of a fertiliser, or of any quantity of a feeding stuff, desires to have the same analysed in pursuance of the fifth section of the above Act, he is, within ten days after delivery of the article to him or receipt of the invoice, whichever is later, either to take samples of the article himself or to give notice in writing to the District Analyst, stating that he desires that the samples shall be taken by the District Analyst.

Regulations as to Samples taken by Buyer.

4. When the buyer intends to take the samples himself, he is to give three days' notice in writing of such intention to the seller, with particulars as to the place, day, and hour of sampling. If the seller does not attend, the samples are to be taken in the presence of a witness, who is to initial each sample.

5. The buyer is immediately to deliver or send by post to the District Analyst, one of such samples, with a report of the case, the invoice or a copy thereof, and also, in the case of a feeding stuff, any circular or advertisement of the seller descriptive of the article to be analysed, which the buyer may wish the District Analyst to consider in making his analysis and giving his certificate.

6. One of the remaining samples is to be delivered or sent by post to the seller, and the other is to be retained by the buyer.

Regulations as to Samples taken by District Analyst.

7. When the buyer or the seller desires that the samples shall be taken by the District Analyst, he is to give notice in writing to that effect to the District Analyst. Such notice is to contain the names and addresses of the buyer and the seller, and such particulars as may be necessary to enable the District Analyst to identify the article to be analysed. A copy of any such notice given by the seller is to be sent at the same time to the buyer.

8. The District Analyst is to give three days' notice in writing to the seller and to the buyer, as to the place, day, and hour of sampling, to enable them to be present at such sampling, if they so desire.

9. One of the samples taken by the District Analyst is to be retained by him, another delivered or sent to the seller, and the third delivered or sent to the buyer.

10. Any notice or sample required by these Regulations to be given or sent by the District Analyst to the buyer or the seller, may be sent by post to the respective names and addresses stated in the above mentioned notice to the District Analyst.

11. The District Analyst, at or before the time of sampling, is to be supplied by the buyer with the invoice or a copy thereof, and also in the case of a feeding stuff, with any circular or advertisement of the seller descriptive of the article to be analysed, which the buyer may wish the District Analyst to consider in making his analysis and giving his certificate.

12. The District Analyst is to provide any receptacle or other thing required by him for the samples.

General Regulations for taking Samples.

13. When the fertiliser is delivered in bags or other packages, a number of bags or packages are to be selected as follows, viz. :—

Not less than 2 bags or packages where the quantity does not exceed half a ton.

Not less than 3 bags or packages where the quantity does not exceed 2 tons.

Not less than 5 bags or packages where the quantity does not exceed 5 tons.

Not less than 10 bags or packages where the quantity exceeds 5 tons.

14. The selected bags or packages are to be emptied separately on a clean and dry stone or wooden floor, worked up with a spade, and one spadeful from each set aside. The separate spadefuls are then to be thoroughly mixed and any lumps broken up by the hand or spade. From this mixture three samples of from $\frac{1}{2}$ lb. to 1 lb. are to be taken and carefully and securely packed, a sufficient quantity of the mixture for such purpose being in the first place separated from the bulk.

15. When the fertiliser is delivered in bulk, then, in like manner, portions are to be taken from different parts of the fertiliser, and thoroughly mixed together, and the samples taken from a portion of such mixture.

16. When the fertiliser consists of bulky materials, uneven in character and likely to get matted together, such as shoddy, wool, refuse, hair, &c., portions are to be taken from the selected bags or packages, or from different parts of the fertiliser, if in bulk, the matted portions torn up, and the whole mixed as above directed, but the samples are to be somewhat larger.

17. When the feeding stuff is in the state of meal or grain, it is to be sampled in the same manner as prescribed for fertilisers. When the feeding stuff is in the state of cake, a number of cakes are to be selected as follows :—

Not less than 3 cakes where the quantity does not exceed 1 ton.

“ 5 “ “ “ 5 tons.

“ 10 “ “ exceeds 5 tons.

18. A section of about four inches wide, across the whole breadth, is to be taken from the middle of each selected cake, and these sections subdivided, also across the whole breadth, into three parts. Three samples shall then be taken, each containing one of these subdivided parts of each selected cake.

19. If the cakes be much broken up, the samples are to be taken in as nearly as possible the same manner as in the case of entire cakes.

20. In the case of a feeding stuff, if any appreciable portion be mouldy, sour, or otherwise unsuitable for feeding purposes, or if cakes be full of hard lumps, or have cotton or hair attaching to them, separate samples are to be taken of such portion or cakes and of the residue of the feeding stuff. An estimate is to be formed as to the proportion of the feeding stuff represented by each sample.

21. When the feeding stuff is in a fluid or semi-fluid condition a number of packages, in the same proportion to the total quantity as in the case of meal or grain are to be selected, and a portion taken from each. The several portions are then to be well mixed together in a clean vessel, and three samples taken therefrom as in other cases.

General Directions.

22. In every case the sampling is to be done as quickly as is possible consistently with due care, and the material is not to be allowed to be exposed any longer than is absolutely necessary.

23. The object of the person taking the samples is to obtain samples fairly representing the bulk from which they are drawn, and therefore no bag, package, or cake is to be selected which has apparently been damaged while in the possession of the buyer.

24. Each sample is to be packed in a dry clean bottle or jar, or (except in the case of a fertiliser) in a dry clean tin, or in some other suitable manner so that the original composition of the fertiliser or feeding stuff may be preserved.

25. The samples are to be so packed and secured that they cannot be tampered with, and to be sealed and initialed by the person taking the sample, and numbered consecutively. They may also be sealed by the buyer and the seller, if present and so desiring. Each sample is to be endorsed with the name of the article, and the date and place of the sampling.

Regulations as to Samples sealed by Seller and Buyer.

26. Where any samples are taken in the presence of, and sealed by, the seller as well as the buyer, such samples are to be deemed, as between the buyer and seller, to have been taken in accordance with these Regulations.

Short Title.

27. These Regulations may be cited as the Fertilisers and Feeding Stuffs Regulations, 1893.

In witness whereof the Board of Agriculture have hereunto set their Official Seal this twenty-third day of December, one thousand eight hundred and ninety-three.



T. H. ELLIOTT,
Secretary.

FEE FUND (HOUSE OF LORDS).

ACCOUNT of the FEE FUND of the HOUSE OF LORDS from 1st April 1893 to
31st March 1894.

Treasury Chambers, }
26 July 1894. }

JOHN T. HIBBERT.

ACCOUNT of the FEE FUND of the HOUSE OF LORDS from 1st April 1893 to 31st March 1894.

RECEIPTS.	PAYMENTS.
£. s. d.	£. s. d. £. s. d.
Balance at the Bank of England on the 1st April 1893 (inclusive of 6,300 <i>l.</i> Security Money in hand) - - - 6,750 10 8	To Securities Fund - - - - 6,300 0 0
Dividends on 42,000 <i>l.</i> Consols :—	Retiring Allowances :—
£. s. d.	Mr. Pechell - - - 304 10 0
April 1893 - - - 281 10 8	„ P. Birch - - - 600 0 0
July 1893 - - - 280 6 7	„ L. Birch - - - 538 6 8
October 1893 - - - 280 6 7	„ Parratt - - - 1,200 0 0
January 1894 - - - 280 6 7	„ Disraeli - - - 1,500 0 0
1,122 10 5	„ Malony - - - 366 13 4
Fees received :—	„ Holland - - - 30 0 0
On Private Bills, &c. - 22,234 13 0	„ Redford - - - 125 0 0
„ Judicial Proceedings - 1,920 9 3	„ Bailey - - - 80 0 0
„ Introductions of Peers - 126 13 0	„ Hall - - - 125 0 0
„ Taxation of Costs :—	„ Williamson - - - 93 6 8
Private Bills, &c. - 401 10 3	„ H. Holloway - - - 200 0 0
Judicial Proceedings - 369 7 6	Mrs. Yates - - - 25 4 0
On Copying, Inspections, &c. - - - - 80 14 0	„ Webb - - - 25 4 0
25,133 7 0	„ Robinson - - - 25 4 0
Introduction Fees due to Garter-King-of- Arms - - - - - 32 10 0	„ Heath - - - 30 0 0
	5,268 8 8
	Less Income Tax - - - 136 9 10
	5,131 18 10
	Introduction Fees to Garter - 32 10 0
	Less Income Tax - - - 0 18 11
	31 11 1
	Income Tax (as above) paid to Income Tax Commissioners - - - - 137 8 9
	Paid to H.M. Exchequer as Extra Receipts 20,987 8 9
	Balance at the Bank of England on the 31st March 1894, less outstanding Cheques - - - - - 450 10 8
£. 33,038 18 1	£. 33,038 18 1

HENRY GRAHAM,
Cler: Parliamentor:

FEE FUND (HOUSE OF LORDS).

ACCOUNT of the Fee Fund of the House of
Lords from 1 April 1893 to 31 March 1894.

(Presented by Her Majesty's Command.)

*Ordered, by The House of Commons, to be Printed,
27 July 1894.*

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R E P O R T

BY

MR. A. D. BERRINGTON

(AN ASSISTANT SECRETARY TO THE BOARD OF TRADE)

AND

MR. J. S. DAVY

(AN INSPECTOR OF THE LOCAL GOVERNMENT BOARD)

ON AN

INVESTIGATION OF THE FISHING APPRENTICESHIP SYSTEM.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

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1894.

REPORT by Mr. A. D. BERRINGTON (an Assistant Secretary to the Board of Trade) and Mr. J. S. DAVY (an Inspector of the Local Government Board) on an Investigation of the Fishing Apprenticeship System.

THE question referred to us has, so far as the port of Grimsby is concerned, already been the subject of two special inquiries by the Board of Trade and the Local Government Board. In the year 1871 complaints were made to the latter Department that a large proportion of the boys who were apprenticed by boards of guardians to the fishing trade in that town absconded or were sent to prison. Mr. Baldwyn Fleming was directed to inquire into these allegations. After an exhaustive investigation he reported generally in favour of the continuance of the system, making at the same time certain suggestions for the better supervision of the boys by the guardians who had apprenticed them. In 1878 another inquiry of a more general nature, but still confined to the port of Grimsby, was held on the direction of the Board of Trade by Mr. Stoneham and Mr. Swanston. Their report also was favourable to the system generally, but they pointed out that the condition of the apprentices was, owing to a want of proper supervision, not altogether satisfactory. On their suggestion the Mercantile Marine Office at Grimsby was divided from the Customs, and an additional office was established at the docks for the superintendent, amongst whose duties it is to see that the law as to apprentices is enforced. Their other recommendations were, speaking generally, embodied in the Merchant Shipping (Fishing Boats) Act of 1883.

This Act, which deals with all apprenticeships or agreements with boys under 16 years old with respect to the fishing services on boats of 25 tons and upwards at all English and Irish ports, gives very wide powers to the superintendent, and, in fact, may be said to constitute him to a great extent the guardian of the apprentices. All indentures must be in a prescribed form, and must be entered into before the superintendent whose duty it is to satisfy himself that they are in conformity in all respects with the provisions of the Act, that the master is a fit person, that the boy is not under 13 years of age, is willing to serve and is of sufficient health and strength for the trade, and that his parents or guardians consent to his being bound. The master is required, within 28 days after the expiration of a probationary period named in the indentures, to bring the boy before the superintendent, who may then determine the apprenticeship if the boy from any cause appears unfit for the service or unwilling to remain in it. After this probation the master is bound to take the boy before the superintendent at least once in every half year. Within 24 hours of the boats' arrival in port the skipper of every fishing boat is required to report to the superintendent every case of death, injury, ill-treatment, or punishment which has occurred on board during the trip, and the superintendent may then make inquiry and take such steps as he thinks advisable either by reporting to the Board of Trade or by having recourse to the criminal law. The amounts of spending money and the terms as to other remuneration and payments to be made to the apprentice are endorsed on the indentures, and the superintendent is empowered to enforce by legal or other proceedings all the provisions of the indentures which are in favour of the apprentice. Any person who takes or causes an apprentice to be taken to sea without valid indentures is liable to heavy penalties.

It will be observed that by the provisions of the Act the apprentices are brought into close relationship with the superintendent, who is a Government official and independent of the trade. As his office must necessarily be near the docks, complaints can without difficulty be made to him by skippers, paid hands, or apprentices. Where the number of apprentices is large a considerable portion of his time is taken up with questions relating to them, and he has every opportunity of becoming thoroughly acquainted with the circumstances of the boys and the character of their masters. It may, however, be remarked that he does not, as a rule, exercise any jurisdiction over the conduct and discipline of the boys when they are on shore.

The usual term of apprenticeships is from six to seven years, terminating at the age of 21, so that boys are generally engaged between the ages of 14 and 15. As a

rule no premiums are paid except by boards of guardians, who usually pay 5*l.* in advance to the master on account of the boy's outfit. The amount of spending money allowed under the indentures varies according to the age of the boy and the custom of the port, being generally from 6*d.* to 2*s.* a week each. Besides this the boys have a share in salvage, and at some ports in certain perquisites, known as "stockerbait," from the sale of small fish, "liver money" from the sale of the livers, and "score money" paid by the owners in proportion to the catch. The question of these perquisites is important, and we shall return to it in a subsequent portion of this Report. Generally speaking, the masters appear to be liberal with the boys in money matters.

At all the ports which we visited we found that the clothing supplied to the apprentices was invariably sufficient in quantity and of excellent quality. In fact a good sea-kit is necessary to enable the boys to do their work, and it is the interest of the masters to supply it. The food of the apprentices on shore and afloat is good and abundant. There was no complaint whatever of anything like systematic ill-treatment of the boys at sea either by the skippers or the crew. It would not, we think, be possible to give greater protection by law to the boys than is already given by the Fishing Boats Act, and as we have shown they have every opportunity of complaining to the superintendent who has full power to make inquiry and where necessary to interfere for the protection of the apprentice. The fact that the number of apprentices has steadily diminished, not from any scarcity of boys willing to be bound but from the unwillingness of the masters to take them, is strong evidence that, at all events so far as these matters are concerned, the apprentices have little to complain of.

After the period of apprenticeship is over the trade is a most lucrative one to men who are sufficiently steady and skilful to enable them to pass the examinations necessary for skippers' certificates. At the smaller ports a man of good character can buy a smack with borrowed money secured by a mortgage on the vessel, and at once start on his own account. In some instances we were assured that this mortgage has been worked off in two or three years or even less. Many of the most prosperous smack-owners started as Union apprentices. The skippers employed by the fishing companies take a share in the earnings of their vessels, and in this way receive a remuneration which enables them, with ordinary luck, to save at least a competence in a comparatively few years. In fact we know of no trade where so much money can be earned by men of average skill without capital. The obvious reason of this is that the supply of men who are willing to face the dangers and hardships of the fisherman's life is necessarily limited, and these men will not do so unless they are sufficiently remunerated. The reality of these dangers, so far as they concern apprentices, is forcibly shown by the third table in the Appendix. It is, however, probable that such a list of casualties might be sensibly reduced if regulations of the nature of those which are made for merchant ships under the Life Saving Appliances Act, but modified to meet the circumstances of the fishing trade, could be applied to fishing boats.

There was a striking unanimity of testimony as to the advantages of the apprenticeship system not only among smack-owners who might be supposed to be personally interested, but among reliable persons who are acquainted with the conditions of the trade, but are entirely independent of it. To learn to be a skilful fisherman or a good sailor a boy must begin young, and young boys cannot safely be sent to sea except under the protection which the regulations as to apprenticeship afford. Where there are no apprentices the owners and skippers of fishing boats are obliged to depend on weekly hands, who in many cases are not sailors at all but men who are driven by poverty to go to sea. We were informed in some ports that men are often shipped to cook and do the work of boys. Frequently they stay on shore till they are forced to sea by hunger and then they ship with an insufficient kit. The masters or skippers have to make advances to them for clothing and sea boots so that at the end of the trip they are landed with little or nothing due to them, to begin the same round again. In fact, as it was put to us by a master of many years' experience, the weekly hands are generally bound by their necessities and their debts just as apprentices are by their indentures. Apprenticeship is essential for the protection of the boys, and is safer and more convenient for the owners, who ought to be able by means of it to rely on crews of steady seamen, properly trained to the fishing trade. The advantages of the system from another point of view must not be lost sight of. Boards of guardians find the greatest trouble in obtaining suitable employment for boys who come into the workhouse at the age of 14 or 15 and who from having been brought up among vicious surroundings or from some defect of character are not fit for domestic service. They are too young for the Army, and not well grown enough to pass the high physical standard required for the Navy. Apprenticed to the fishing

trade with due care and under proper conditions they serve a term of disciplined work which may train them to be industrious and useful men. The fact is that for certain boys an apprenticeship to the fishing trade is their last chance.

On the other hand the evils which exist cannot be lightly estimated. In some ports, as in Hull, the difficulties which the masters find in maintaining proper discipline among the boys have killed the system; while in Grimsby the number of apprentices who abscond from their indentures, or who are committed to gaol for offences under the Act of 1883, has brought much odium upon it. The question is now whether the system, which is evidently of the greatest service to many boys, and which is in other respects a public benefit, can be so modified as to get rid of the abuses which threaten to put an end to it.

In all the ports the best smack-owners know that their smacks are better manned if the crews have been trained to the business from boyhood; but they cannot be expected to incur the heavy expenses attending the earlier years of apprenticeship of boys who are likely to abscond or to manage to get their indentures cancelled just as they are beginning to be useful. Weekly hands may be inefficient fishermen and bad sailors, unfit to become skippers or second hands, but at all events there is no capital invested in them. If they abscond another hand can usually be hired, and the master, although he may be put to considerable inconvenience, suffers little money loss. And so it happens that, where from any cause a sufficient number of weekly hands to man the smacks can be obtained, the masters, while admitting the advantages of training and employing apprentices, will not take the risk of doing so. At Lowestoft, for instance, the apprentice class is rapidly becoming extinct, and trawlers are manned by casual hands who are attracted to the town by the herring fishing and by the general shipping trade.

Apprentices usually give most trouble to their masters by absconding, and by what is technically known as "stopping the ship." With regard to absconding, it does not necessarily follow that a boy who absconds has been in any way ill-treated, or is unfit for the sea, or even that he is dissatisfied with his occupation. An apprentice who is bound until he is 21 is, if he has been properly trained, worth good wages long before he gets to that age. He sees weekly hands who may be inferior in every way to himself receiving amounts many times larger than his scanty spending money. He forgets that his master has provided him with clothes, food, and medical attendance during the years when his services were of little value, and is still bound to do so until he is out of his indentures. That he should abscond and seek independent employment in another port may be short-sighted and unreasonable, but it is not unnatural. What absconding does show is that there is a want of thoroughly good relations between the master and his apprentice, and this want seems to us to be the cause of most of the mischief.

An apprentice is said to "stop the ship" when he neglects to join his boat as she is about to sail, or when he goes on shore and runs away as she is leaving the dock. The vessel has then to wait until he is caught and brought on board again, or until a weekly hand is found to go to sea in his place. The weekly hand naturally takes advantage of the situation, and claims exorbitant wages, while the boy, if he is not taken before the magistrates and sent to gaol, has to be kept on shore at the expense of the master until the smack returns from her trip. Frequently the vessel loses at least one tide, which entails a serious loss of money on the owner, especially in the case of the large steam trawlers and codmen, costing several thousand pounds each, and manned by a crew of from eight to ten hands. The vessel has to lie idle, the hands have to be paid for doing nothing, the ice and the steam are wasted because one apprentice boy does not choose to return to his duty. Apart from the loss of money, the annoyance and irritation to the owners and to the skippers who have a share in the proceeds of each trip, may readily be imagined. Sometimes an apprentice appears to regard stopping the ship as the constitutional method of getting redress for his grievances. Sometimes he does it repeatedly in the hope of forcing his master to cancel his indentures, and so to leave him free to get work and wages as a weekly hand. This is another form of absconding, and in these cases the masters are usually willing to let the boy go if he will undertake to leave the port and find work elsewhere. But, generally speaking, a boy stops the ship because he wishes to amuse himself for a day or two longer on shore, or to go to a football match or some other form of entertainment. An ordinary apprentice no more likes going to sea than an ordinary boy likes going to school. When he is at sea or at school the boy may be comfortable enough, but he does not like going; and it is evident that if the system of employing boys in

the fishing trade is to continue at all there must be some effective means of compelling them to keep their engagements. Experience shows that the principal difficulties occur about half way through the period of apprenticeship, that is to say, when the boy is about 16 or 17 years old. At that age he has learnt something of his trade, and begins to envy the wages and the freedom of the weekly hand. His animal spirits are high and his judgment is weak, and unless he has an exceptionally high sense of duty, or is bound to his employer by a loyalty which can only come from intimate and friendly relations, he can only be restrained by the fear of punishment. As he gets older he becomes more sensible, and realises that his permanent interest is to keep on good terms with his employer, and to qualify himself for his certificate.

Of the ports where there are any considerable number of apprentices, it is only at Grimsby and Hull that it is the custom to appeal to the magistrates to enforce discipline, and at Hull the system is rapidly becoming extinct. At Brixham and at Ramsgate the difficulties which occur between the boys and their employers are settled in domestic fashion; and, although some masters refuse to take apprentices on account of the trouble which their supervision involves, there is no indication that the system is losing ground. At Ramsgate, where out of over 150 apprentices only one was sent to prison last year, we are informed that in 1878 no less than 10 per cent. were committed for various terms. Since then earnest and successful efforts have been made to improve the condition of the boys by keeping them under supervision when they are on shore, by carrying out the provisions of the Act of 1883 in a sympathetic spirit, and by the establishment of a well equipped and kindly managed fisherboys' home.

The difference in the numbers of apprentices committed to prison for offences under their indentures at the ports where the system is in use is strikingly shown by the returns given in the Appendix. At Brixham and at Ramsgate a boy is very rarely sent to prison, while at Grimsby, out of 882 apprentices, 79, or 9 per cent. were committed in 1893 for various offences, including a majority of the 54 who absconded. At Hull, where at one time there were 400 apprentices, the numbers fell to 112 in 1891, and to 62 in 1893, while there were no less than 18 committals to prison in the latter year for offences against the indentures. The masters seem to have lost all control over their apprentices, and have given up taking them. The trade at this port is now practically worked by paid hands, and it is evident that unless some great change takes place either in the character of the apprentices, or in the way they are managed, the system will die out. It is often alleged in Hull and in the other ports that this state of things is due to the weakening of the legal control of the masters over their apprentices, which has resulted from recent legislation. To some extent this may be so, although the number of committals shows that the masters have frequent recourse to the criminal law in dealing with their boys. There are, however, other causes at work in Hull which are sufficient to account for the change which has taken place. The owners live more comfortably than they used to do, and naturally enough they and their wives more frequently refuse to undertake the trouble of boarding the apprentices in their own homes. The boys have to live in lodgings, and the domestic control which formerly existed, and which bound the boy to his master by other ties than those which are set out in the indentures, is lost. Again, as the trade grew very fast it was necessary to employ weekly hands, a supply of whom is never wanting in a large shipping port like Hull. As has already been pointed out, there is a great temptation to the apprentices to abscond or to get their indentures broken in order that they may enjoy the liberty and the wages of the paid boys, and consequently, where weekly hands are employed to any considerable extent the apprenticeship system must always be worked under great difficulties. It is frequently said at Grimsby that the absconding apprentices man the Hull fishing boats. At Grimsby the management of the apprentices is undoubtedly far more difficult than it is at Ramsgate and Brixham, not only because their number is much greater, but also because the fishing business is carried on under different conditions and on a larger scale. As the trade became more important capital was attracted to the port, large companies were formed, and steam trawlers and codmen were introduced in the place of the sailing smacks. Thus the small owners who went to sea in their own vessels, and whose apprentices lived with them, were to a great extent supplanted by skippers employed by the companies. If there had been at Grimsby the same supply of weekly hands as there is at Hull and Lowestoft it is probable that the apprentice system would have died out as it has done in those ports. As it is, it is worth the while of the companies and the larger smack-owners to take the boys and even to make

special efforts to get them. For instance, the managing director of the Grimsby Ice Company, to which no less than 222 apprentices are bound, visits Unions all over the country for the purpose of recruiting boys from the workhouse schools.

The boys are apprenticed to the companies, their indentures being made out to the managers. They are shifted from one fishing vessel to another as may be most convenient, and when on shore are boarded in lodgings, or, in the case of the Grimsby Ice Company and the North Sea Steam Trawling Company, in institutions specially built for the purpose. Their training is of necessity left to the skippers, and their supervision when on shore to the lodging-house keepers and the superintendents of the homes. There is a general complaint that the skippers will not take the trouble to keep the boys under proper discipline while they are at sea; and, in the case of the Grimsby Ice Company, they were not at the time of our visit employed in any way while they were on shore. The company finds it more economical to fit out the vessels when in port by trained men from their stores than to employ the boys who require looking after, but it would evidently be better for the boys not to have their whole time to themselves while they are in port, but to get the training which the work would give them. Many of the directors and managers of the companies undoubtedly take a considerable interest in the welfare of their apprentices, but the question whether they are well looked after or not depends principally on the character of the persons with whom they are boarded. In many instances the managers of the boarding-houses, who are women or married couples, appear to us to have been chosen with great care, and to be well qualified for their duties. In these cases a most wholesome influence is exercised on the boys, who evidently are restrained by a feeling of affection for the managers, and who regard their lodgings as their home. Of such homes we saw several, but it is apparently difficult for the companies or the large owners to provide for their apprentices in this manner. At all events some years ago the Grimsby Ice Company, being dissatisfied with the way in which their apprentices were lodged, spent a large sum of money in building a home, which is capable of accommodating 100 apprentices—or more than are likely to be on shore at one time. This building is well arranged for the purpose of housing the boys, each of whom has a separate bedroom. The diet and the clothing are good, and the whole establishment is clean and well ordered. There are, however, no books and few games; and apparently no attempt is made to induce the boys to look upon the place as their home, or to stay there during the evenings. In fact the boys' money is paid to them in the evenings, and they naturally go into the town to get rid of it. Within the building strict discipline is no doubt maintained, and there are necessary regulations as to the time before which a boy is obliged to return at night. But it does not appear that apprentices of 14 are under any more restraint than those of 20; and it is evident that in other ways there must be great difficulty in managing lads varying in age from 14 to 21 who live in one building. The Ice Company have spent large sums of money on the building, and have evidently taken great pains to make the arrangements as perfect as possible within certain limits, but it is certain that they would have done better to have provided at least three small homes, or at any rate to have divided the institution into as many separate departments, in which the apprentices could have been classified according to age, and, in the case of the younger boys, been placed under a more domestic system of management. The home built by the Trawling Company has sufficient accommodation for 60 boys. It is managed by matrons, and hardly differs from the larger lodging-houses as far as the management is concerned.

A frequent cause of complaint against the apprentices is that they spend their money and their time at the theatres and at music-halls connected with public-houses. It is evident that unless some amusement is found for them in their lodgings during the evenings they will go out to get it. To provide for this want a large and well equipped fisherboys' institute has been built by public subscription. This institution has been provided with reading rooms, a gymnasium, and a swimming bath, but it is not as popular with the boys as it might be. They use it when they first come to Grimsby, but after a short time they go elsewhere. Possibly a good deal might be done to make the place more attractive, but in any case the boys, at all events the elder boys, will go to the music-halls when they have money in their pockets. It can hardly be expected that young men, as the elder apprentices are, should be restrained from going to such places of amusement, but it is clearly not expedient that boys of 14 should be allowed to frequent them. The music-halls and singing rooms which we visited

appeared to be of the sort common to all seaport towns, and in fact to be better conducted than such places often are. But there are a great many of them, and they are largely frequented by apprentices of all ages. The remedy appears to us to depend partly on the snack-owners, who might put the younger boys under more domestic supervision, and partly on the municipal authorities, who might well, having regard to the special circumstances of the borough, take steps to check the admission of the younger apprentices to some of the places of amusement. It has been suggested that apprentices below a certain age should wear some uniform or badge of the kind which is worn by public school boys. The difficulty as to this is that the boys are very averse to wearing any distinctive mark on their clothing; and as a matter of fact a fisherboy is not hard to distinguish.

There is in Grimsby a strong feeling that much of the bad conduct of the boys arises from the fact that they have too much money. Their spending money is small, but they are entitled to the perquisites of stockerbait, liver money, and score money, and these are paid to them in a lump sum at the end of the voyage. The amount is often considerable, and unless the boys are restrained by strong moral influences, they are certain to be tempted to waste it in demoralising surroundings. The fishing crews, men and boys alike, are very jealous of any interference with these perquisites, but it is provided under the indentures that the remuneration and payments, the particulars of which are endorsed, shall be paid direct by the masters to the superintendent, and by him placed to the credit of the apprentices in the savings bank. The same rule applies to all shares which the apprentices may have in any salvage earned by the vessel. In former years a considerable sum was saved for the apprentices in this way, but of late years the amounts deposited by the superintendent have been very small, although under changed supervision they are again increasing.

There can be no doubt that if the articles of the indentures were carried out and the perquisites were saved the boys would be easier to manage and less exposed to the risk of falling into bad company. On the other hand the spending money of the elder boys would not be reasonably sufficient, and they might be even more tempted than they are now to abscond and to join the ranks of the weekly hands. To meet this difficulty the superintendent might be empowered to allow the boys to draw on their savings bank money in regular weekly sums proportioned to their ages. The possession of a savings bank account would undoubtedly keep the boys more steady, especially if they lost their claim to it by permanently absconding. Under the indentures all savings in the hands of the superintendent can be employed for the payment of fines inflicted by a competent court. At present if an apprentice is brought before the magistrates for the ordinary offence of stopping the ship, they must either commit him to prison or let him off altogether, because he has no money to pay a fine. This means that either the boy must be injured by the infliction of a punishment which is in most cases wholly unsuitable, or the masters must be left without protection against a serious loss, and that, in the result, the whole system of taking apprentices must come to an end.

If an apprentice who has stopped the ship has no money, in order to make him liable to any punishment at all proceedings must be taken under sub-section (4) of section 28 of the Fishing Boats Act, which renders him liable to be imprisoned for a term not exceeding four weeks for wilful disobedience to a lawful command, whereas if he had money he might be fined. At Grimsby a boy is not usually punished under this sub-section unless he has stopped the ship at least twice before, and has been cautioned either by the justices or by the superintendent whose practice it is to attend the court and watch each case in which an apprentice is concerned. We are informed that the magistrates as a rule consult him before they commit an apprentice to prison.

As we have already pointed out stopping the ship is very often the result of some boyish freak, and might, in the case of the smaller boys, properly be punished by a birch rod; but the magistrates have no power to order a birching, and as the law now stands they must either let the apprentice go unpunished for an offence which is, at all events in its results, of a serious nature, or they must inflict a punishment which everybody admits is not expedient, and which, after it has been applied once or twice, apparently ceases to be deterrent. The duty which is thrown upon the magistrates is odious to them, while the snack-owners admit that a boy who has been in gaol two or three times is of no further use as an apprentice.

It has been from time to time alleged that the Grimsby magistrates, being largely interested in the fishing trade are not impartial in their dealings between the apprentices and their masters. Too much weight must not be attached to such allegations, which

are generally difficult to disprove, and it may be pointed out that the experienced stipendiary magistrate at Hull, who knows the circumstances of the trade intimately, meets with precisely the same difficulty as the Grimsby magistrates in dealing with offences under the Fishing Boats Act, and finds himself obliged to inflict similar penalties on apprentices who are guilty of them. Besides this the powers of the superintendent would be sufficient to enable him to effectively call attention to any possible abuses in the administration of justice. It appeared to us, however, that the magistrates would be glad to be relieved of a most unpleasant duty, and there can be no doubt that there are special difficulties in dealing with such cases where the interests of all classes are much connected with one particular trade.

By section 32 of the Fishing Boats Act the superintendent or the principal acting Board of Trade officer at any port is empowered to issue a warrant for the apprehension of an apprentice who deserts or neglects to join his ship, or is charged with wilful disobedience. The apprentice when apprehended is to be brought before the officer issuing the warrant, who may discharge him or may order him to join his fishing-boat and resume his duty. If he refuses the officer must cause him to be detained and taken before the magistrates. This procedure appears at first sight to be the proper one for apprentices who are charged with offences under their indentures. But in cases of stopping the ship it is, in many places, not effective, for before the apprentice can be brought before the Board of Trade officer the fishing-boat has generally sailed. The apprentice then has no hesitation in saying that he is willing to join her, and in the result he stays on shore during the trip at his master's expense, and without punishment, which is precisely what he wants. At the same time at other ports where the masters bring the apprentice before the Board of Trade officer in the first instance in every case, this is often sufficient to prevent further proceedings being necessary.

It must be remembered that absconding and stopping the ship are not new offences. In the Reports of 1872 and 1877 it is shown that in those years at least 10 per cent. of the Grimsby apprentices were committed to prison for offences under their indentures. We were informed that the conduct of the apprentices has greatly improved in recent years; and that during the last 18 months there has been a marked decrease in the number of committals. Nor is the trouble felt by all the masters alike. Several private employers and representatives of companies informed us that they had had little or no difficulty with their boys, of whom they spoke in the highest terms. The International Trawling Company and the North-Eastern Steam Fishing Company, who employ 70 apprentices have only found it necessary to take three boys before the magistrates in the last six years, and not one has been sent to prison. The lodgings of the apprentices belonging to these companies were among the most home-like of those we visited. The representative of another large company told us that he had had surprisingly little trouble considering the class of boys, the rough life, and the want of discipline at sea. A large owner, whose apprentices are all Union boys, said he had never had an unmanageable boy or one whom it was necessary to punish by imprisonment. Nearly all his skippers are his old apprentices. The directors of the Grimsby Ice Company, whose dealings with their apprentices have been most criticised, informed us that they have had no trouble with 150 out of the 222 they employ. As we have already pointed out, many boys are apprenticed to the fishing trade as their last chance. For example, it appears that the two boys from the Nottingham Union whose case has attracted some attention, had been boarded out by the guardians as infants, were taken before the magistrates by their foster parents for theft, and were finally returned to the workhouse as incorrigible before they were sent to Grimsby. Whether it is expedient or right for the guardians to apprentice boys of this character must depend on the facts of each case, but it is at all events clear that the boy himself cannot well be injured, though the other apprentices may be. Nor can it be expected that such boys will give no trouble to their masters.

Out of 1,420 boys apprenticed at Grimsby during the last five years 715 were chargeable to the poor rates and were apprenticed by the guardians, 74 came from reformatory and industrial schools, and 68 from the Greenwich Hospital Schools, training ships, and missions, making a total of 857 who were apprenticed by public bodies. We have received letters from 33 boards of guardians, in reply to our request for information as to their experience of the working of the apprentice system. One board is of opinion that the term of apprenticeship is unfairly long, and have determined to send no more boys to Grimsby. The experience of four others has been more or less unsatisfactory, although the opinion of none of the four is altogether unfavourable to the system for a certain class of boys. For example, the clerk of the Liverpool Select Vestry, where out of 35 boys sent to Grimsby 19 have been returned as unfit for the service, writes: "This result can hardly be considered satisfactory, but the difficulty of finding suitable

“ outlets for boys of from 14 to 16 years old is so great that the Vestry are unwilling to close this altogether. The reports we have of the boys who have got through the initiatory stages are fairly favourable. They like the work, and have no complaint to make as to their position and treatment. Influenced by these considerations, the Vestry have determined to send another batch of boys.” The Liverpool boys are apprenticed to the Grimsby Ice Company. The remaining 28 boards, some of whom have inquired into the matter by means of committees who visited Grimsby, report that their experience has been satisfactory. It is quite evident that some boards are much more careful than others to select suitable homes for their boys and to find out what they are doing after they are apprenticed. For instance, in the case of Middlesbrough, Berwick, Stockton, Staines, and some other Unions, an officer of the guardians accompanies the boy to Grimsby, sees him indentured, attends again before the superintendent after the trial trip, and periodically visits him afterwards. At Wisbech this duty is discharged by the chairman of the guardians. There seems to be a general agreement among the guardians, who have given most attention to the matter, that the boys who are placed with private owners have the better chance. The committee of the Middlesbrough guardians, who have always exercised a constant and kindly supervision over their apprentices, write: “ We are of opinion that it is preferable to send them to private owners rather than to the companies who have a large number of apprentices living in homes specially built for the purpose, as in these homes the boys, though well taken care of, do not get the benefit of home life as they do in private houses.” They add that boys should not be sent much before they are 15 years of age.

The superintendent of the Edmonton Schools mentions the fact that one of the boys apprenticed from the schools is now a smack-owner and takes apprentices from them, and says: “ It should be borne in mind that it is only the strong rougher lads that are sent to sea from these schools, boys that it would be very difficult to do anything else with. In sending our boys to sea I never place them with the large smack-owners, but with those who go to sea in their own vessels, and also have the boys to live with them at their own homes when ashore.”

We have embodied in an Appendix a number of returns which will throw light on the general working of the system.

After a careful consideration of the whole question of the apprenticeship of boys to the fishing service, we are of opinion that every effort should be made to ensure the continuance of the system. At many ports it is falling into disuse, and at some it has been practically abandoned, whilst at Grimsby, where the largest number of apprentices are employed, certain evils exist which injuriously affect both masters and boys, and which, although they have decreased, still need a remedy. It is evident to us that to impose further legal restrictions on the smack-owners would be of little service to the present apprentices, and would render the masters in the future even more disinclined than they are now to take the boys. The Fishing Boats Acts are not altogether in harmony with the custom and practice of the trade, but it is not in this direction that we should advise their being amended. The proper remedy both for the decay of the system and for its abuses seems to us to lie (1) in the improvement of the training and discipline of the apprentices, and (2) in the readjustment of several details connected with the regulations and supervision.

On the first of these two points the remedy is very much in the hands of the masters themselves, and of the boards of guardians and other public bodies who apprentice the boys. The masters are the gainers when their vessels are worked by fishermen who have undergone the training of apprenticeship, and the boards of guardians have, generally speaking, found the system to be of the greatest benefit to the most troublesome class of boys with which they have to deal. It ought therefore to be the endeavour of both masters and guardians to do all in their power to provide the conditions under which experience has shown that the best results may be obtained, namely, that the boys should be under a steady though kindly discipline when they are afloat, and should enjoy a certain amount of home life, with the domestic supervision and interests which home life implies, when they are ashore. We have pointed out the special obstacles in the way of obtaining these conditions at certain ports, but, whilst we fully recognise their magnitude, we are satisfied that much more than is now done might be done to overcome them; and we are confirmed in this view by the fact that in the case of some masters, and even of some companies, who naturally experience greater difficulties, a successful result is obtained.

All boards of guardians and managers of reformatory and industrial schools should recognise, as many already do, that their duties should not end with the formal act of

apprenticeship, and that their subsequent supervision of the boys has a most salutary effect both upon them and on their masters. Before a boy is apprenticed he should be passed as fit for the service by a medical officer, whose certificate should accompany the application to the superintendent for the indentures, and should be retained by him. He should be accompanied to the port by a responsible officer, who should satisfy himself that the arrangements made for the boy's reception are suitable, and should visit him occasionally after the indentures have been confirmed. Provision should be made to ensure that absconding or other grave misconduct and any serious accident should be at once reported. Many masters make it a practice to give their apprentices an annual holiday for the purpose of enabling them to visit their friends. This appears to have a very good effect on the boys, and it might well be made a condition in the indentures, when practicable, and subject to the approval of the superintendent, which approval should be withheld as a punishment for serious misconduct. As the first employment of an apprentice is as cook it would be of much use in helping him over his early troubles if he received some instruction and practice in cookery before he is sent to the port.

With regard to the second point, the re-adjustment of details connected with the regulations and supervision, the question of the spending money and perquisites of apprentices appears to require some attention. In the case of Grimsby it is shown by Table IV. of the Appendix that the slackness of supervision which seems to have prevailed between the years 1884 and 1892 extended to this subject, and that the provisions of the Form of Indenture to the effect that certain of these moneys should be paid into the savings bank have been but little observed. It is admitted that the boys often receive too much money at one time, and that it would be an advantage to pay it over to them at intervals in reduced sums. We have received in 43 cases returns of the amounts paid in one sum to apprentices on coming ashore after an identical period of eight weeks. They run from a minimum of 10s. 4*d.* to a maximum of 2*l.* 15*s.*, and in several cases they exceed 2*l.* The receipts necessarily vary according to the custom of the port, the description of the fishing, and the standing of the boys, but we are of opinion that at some ports, and especially at Grimsby, it would be desirable to provide for the payment of reasonable sums to the apprentices weekly when ashore, except in cases of misconduct, and for the investment of any excess of perquisites; making the fund so formed available for withdrawal of moneys by the superintendent, not only as now for the payment of a fine in case of conviction, but also for special objects, such as a journey to their friends. Although the existing rules permit the payment of the fine out of moneys in the savings bank, the fund seldom exists. Some re-arrangement of the manner in which the deposits are entered would seem to be advisable.

At present the apprentice must be provided with suitable and sufficient board and lodging to the satisfaction of the superintendent, but when once provided the homes have been but seldom visited. It is desirable that the superintendence should be more continuous.

The superintendent should take great care to ascertain that each boy is willing to serve, and that he thoroughly understands the bargain he is making, both when the indentures are first prepared and again when they are confirmed. At the latter period he should spare no pains to satisfy himself that the boy is really fit for the service. Certain boys, for instance, are from some constitutional defect afraid of the sea, and are therefore unlikely to become seamen. As they are often ashamed to confess the failing, special attention should be given to any case of doubt upon this head. He should occasionally visit each home for the purpose of ascertaining that it is well managed, and is maintained in a satisfactory manner, and should require the attendance of the apprentice at his office at least once in each six months, as is provided by the existing regulations. He should observe the importance of providing a fund out of which the boys can be assisted when necessary, or the payments from which may be discontinued or reduced in case of bad behaviour, and should confer with the masters as to the manner in which this fund is to be administered. He should in every way encourage the masters to consult him before they take proceedings against an apprentice, and should, whenever practicable, attend the court at the hearing of the case.

It would be desirable that the Annual Return with respect to apprenticeships, which is forwarded to the Board of Trade by the superintendent, should be amplified, and should show in a concise form the action taken and any important occurrences in each individual case.

There is considerable diversity of opinion as to the time for which an apprentice should be bound. Some boards of guardians think that four years is the term which is fairest to the boys, but it does not pay a smack-owner to take a young apprentice

for so short a period, and it is doubtful whether the four years' training would be enough to thoroughly teach the trade of a fisherman. The ordinary term of seven years, terminating at the age of 21, makes it necessary that a boy should be sent to sea at the age of 14, which is, in the majority of cases, somewhat too young. On the whole, we think that the term of apprenticeship ought not to exceed six years, and that, as a rule, the boy should be not much less than 15 when he is bound.

There remains to be mentioned one suggestion which has been made to us, and which we think should be carried out. It is that the out-door officers of the Board of Trade should be sworn as constables, so that they may assist in stopping or bringing back deserters under the powers of the last paragraph of s. 32 of the Fishing Boats Act, 1883. This has already been done occasionally at some ports.

27th July 1894.

A. D. BERRINGTON.
J. S. DAVY.

APPENDIX.

I.

RETURNS from all PORTS except GRIMSBY of APPRENTICES registered from 1889 to 1893.

Port.	Year.	No. registered.	Indentures annulled on Probation.	Indentures confirmed.	Indentures cancelled.	Ab- sconded.	Died.		Term expired.	Serving 31st Decem- ber.	Committed to Prison for Offences against Indentures.
							At Sea.	On Shore.			
Brixham - {	1889	49	8	41	10	5	—	—	12	210	3
	1890	57	—	57	13	2	3	—	23	226	1
	1891	45	5	40	7	3	1	—	21	234	—
	1892	40	5	35	3	2	—	—	27	237	2
	1893	54	5	49	4	—	—	—	34	248	1
	Total	245	23	222	37	12	4	—	117	—	7
Colchester - {	1889	20	—	20	3	—	—	—	3	120	—
	1890	31	—	31	—	—	—	—	51	100	—
	1891	17	1	16	—	—	—	—	31	85	—
	1892	29	—	29	2	—	—	—	17	95	—
	1893	24	—	24	—	—	—	—	19	100	—
	Total	121	1	120	5	—	—	—	121	—	—
Harwich - {	1889	10	—	10	4	1	—	—	8	36	—
	1890	6	—	6	3	—	1	—	11	27	—
	1891	3	—	3	3	—	—	—	5	22	—
	1892	5	—	5	—	—	—	—	4	23	—
	1893	—	—	—	1	—	1	—	4	17	—
	Total	24	—	24	11	1	2	—	32	—	—
Hull* - {	1889	27	7	20	31	—	—	—	—	128	20
	1890	22	7	15	5	—	1	1	—	134	18
	1891	32	9	23	4	—	1	—	—	112	9
	1892	13	2	11	2	—	—	—	—	101	15
	1893	14	3	11	10	—	2	—	—	62	18
	Total	108	28	80	52	—	4	1	—	—	80
Lowestoft - {	1889	10	1	9	5	2	—	—	3	36	—
	1890	11	1	10	5	2	—	—	4	35	1
	1891	8	—	8	—	1	2	—	7	33	—
	1892	5	—	5	—	3	—	—	3	32	—
	1893	7	—	7	4	2	—	—	6	27	—
	Total	41	2	39	14	10	2	—	23	—	1
Milford, Port of. {	1889	3	—	3	—	—	—	—	—	3	—
	1890	4	—	4	2	—	—	—	—	5	—
	1891	—	—	—	1	—	—	—	1	3	—
	1892	—	—	—	1	—	—	—	—	2	—
	1893	2	—	2	—	—	—	—	—	4	—
	Total	9	—	9	4	—	—	—	1	—	—
Plymouth - {	1889	4	—	4	2	—	—	—	2	20	—
	1890	2	—	2	6	1	1	—	2	12	—
	1891	1	—	1	—	—	—	—	2	11	—
	1892	2	—	2	1	—	—	—	1	11	—
	1893	1	—	1	—	—	—	—	2	10	—
	Total	10	—	10	9	1	1	—	9	—	—
Ramsgate - {	1889	44	2	42	14	2	—	—	13	135	—
	1890	21	2	19	7	3	1	—	25	118	—
	1891	41	1	40	5	3	4	—	18	128	—
	1892	39	4	35	6	5	—	—	16	136	1
	1893	49	4	45	5	5	—	—	15	156	—
	Total	194	13	181	37	18	5	—	87	—	1

* The Returns from this Port are imperfect, as not distinguishing whether the termination of the apprenticeship was due to absconding or expiration.

RETURNS from all PORTS except GRIMSBY of APPRENTICES, &c.—*continued.*

Port.	Year.	No. registered.	Indentures annulled on Probation.	Indentures confirmed.	Indentures cancelled.	Ab- sconded.	Died		Term expired.	Serving 31st Decem- ber.	Committed to Prison for Offences against Indentures.
							At Sea.	On Shore.			
Scarborough	1889	9	2	7	2	1	—	—	7	30	2
	1890	5	2	3	9	—	—	—	1	23	3
	1891	1	—	1	3	—	—	1	7	13	—
	1892	—	—	—	1	—	—	—	4	8	—
	1893	—	—	—	—	—	—	—	7	1	—
	Total	15	4	11	15	1	—	1	26	—	5
Yarmouth	1889	—	—	—	—	—	—	—	—	—	—
	1890	3	—	3	—	—	—	—	—	3	—
	1891	2	—	2	—	—	—	—	3	2	—
	1892	—	—	—	—	—	—	—	2	—	—
	1893	—	—	—	—	—	—	—	—	—	—
	Total	5	—	5	—	—	—	—	5	—	—

SUMMARY.

Port.	Years.	No. registered.	Indentures annulled on Probation.	Indentures confirmed.	Indentures Cancelled.	Ab- sconded.	Died		Term expired.	Committed to Prison for Offences against Indentures.
							At Sea.	On Shore.		
Brixham	1889-93	245	23	222	37	12	4	—	117	7
Colchester	"	121	1	120	5	—	—	—	121	—
Harwich	"	24	—	24	11	1	2	—	32	—
Lowestoft	"	41	2	39	14	10	2	—	23	1
Milford	"	9	—	9	4	—	—	—	1	—
Plymouth	"	10	—	10	9	1	1	—	9	—
Ramsgate	"	194	13	181	37	18	5	—	87	1
Scarborough	"	15	4	11	15	1	—	1	26	5
Yarmouth	"	5	—	5	—	—	—	—	5	—
Total for all ports except Grimsby and Hull		664	43	621	132	43	14	1	421	14

II.

GRIMSBY.

RETURN of APPRENTICES registered from 1881 to 1893.

Year.	Number re- gistered.	Inden- tures annulled on Probation.	Inden- tures con- firmed.	Inden- tures cancelled.	Ab- sconded.	Died.	Term expired.	Serving 31st December.	Committed to Prison for Offences against Indentures.
1881*	277	13	264	14	49	5	—	320	144
1882	419	28	391	23	87	10	—	591	126
1883	366	33	333	27	110	18	9	760	158
1884	413	49	364	33	90	18	86	947	145
1885	292	59	233	29	108	20	71	952	147
1886	343	41	302	28	94	18	93	1,026	134
1887	339	59	280	42	110	20	114	1,020	157
1888	368	69	299	39	109	19	162	990	157
1889	348	61	287	32	113	32	136	964	139
1890	298	81	217	44	55	14	120	948	144
1891	215	46	169	22	58	15	127	898	121
1892	277	59	218	22	85	15	109	882	127
1893	282	80	202	39	54	16	93	882	79
	4,237	678	3,559	394	1,122	215	1,070	—	1,778

* On 31st December 1880 there were 124 apprentices serving.

III.

GRIMSBY.

CAUSES of DEATHS of APPRENTICES from 1881 to 1893, inclusive.

Year.	Number serving 31st December.	Collisions.	Strandings.	All Hands Lost.	Fell Over-board.	Fell Over-board drawing Water.	Washed Over-board.	Knocked Over-board by Boom, &c., or otherwise Accidentally Killed.	Drowned from Small Boats.	Drowned when Fish Ferrying.	Other Deaths by Drowning.	Natural Causes.		Suicide.	Total Deaths.
												At Sea.	On Shore.		
1881	320	—	—	1	2	1	—	1	—	—	—	—	—	—	5
1882	591	2	—	4	1	1	1	—	—	—	—	—	1	—	10
1883	760	1	—	5	3	—	5	2	1	—	—	—	1	—	18
1884	947	—	—	5	4	—	8	—	—	—	—	—	1	—	18
1885	952	—	—	2	7	1	6	1	—	—	1	1	—	1	20
1886	1,026	—	—	—	5	—	4	2	1	—	—	—	1	—	13
1887	1,020	—	—	—	6	1	7	1	—	—	—	—	5	—	20
1888	980	1	2	—	5	1	6	1	1	—	1	—	1	—	19
1889	964	2	—	13	4	—	5	2	—	3	—	1	2	—	22
1890	948	—	—	—	6	—	1	2	2	2	—	1	—	—	14
1891	895	—	—	4	6	—	2	—	—	1	—	—	1	1	15
1892	882	—	—	3	3	—	3	1	—	2	—	—	3	—	15
1893	882	1	—	4	—	1	4	3	1	—	—	—	1	1	16
Total		7	2	41	52	6	52	16	6	8	2	3	17	3	215

IV.

GRIMSBY.

NUMBER and AMOUNT of DEPOSITS in the SEAMEN'S SAVINGS BANK by or on account of FISHING APPRENTICES.

Year.						No. of Deposits.		Amount.		
								£	s.	d.
1881	-	-	-	-	-	-	144	52	14	5
1882	-	-	-	-	-	-	239	142	13	3
1883	-	-	-	-	-	-	282	182	6	3
1884	-	-	-	-	-	-	264	218	15	11
1885	-	-	-	-	-	-	76	50	7	0
1886	-	-	-	-	-	-	34	21	18	0
1887	-	-	-	-	-	-	25	23	11	0
1888	-	-	-	-	-	-	15	13	12	6
1889	-	-	-	-	-	-	24	29	16	0
1890	-	-	-	-	-	-	7	7	1	6
1891	-	-	-	-	-	-	30	19	2	0
1892	-	-	-	-	-	-	57	24	13	0
1893	-	-	-	-	-	-	90	44	17	8

V.

GRIMSBY.

LIST of UNIONS, INDUSTRIAL and other SCHOOLS, REFORMATORIES, &c., from which APPRENTICES have been received during the years 1889 to 1893.

Unions, &c.	Number received in each Year.					Total.
	1889.	1890.	1891.	1892.	1893.	
Alcester -	—	—	1	—	—	1
Alton -	—	—	—	—	1	1
Altringham -	—	1	—	—	—	1
Amphill -	—	—	—	—	2	2
Ardwick Green Industrial Schools	5	5	2	3	1	16
Aston -	—	—	—	—	2	2
Atcham -	—	3	—	—	—	3

LIST of UNIONS, &c.—continued.

Unions, &c.	Number received in each Year.					Total.
	1889.	1890.	1891.	1892.	1893.	
Aylesbury	2	3	—	1	—	6
Balham Orphanage	1	—	—	—	—	1
Barnes Home	1	—	—	1	2	4
Barnet	—	2	1	—	—	3
Basford	6	—	5	—	3	14
Berwick	4	1	3	—	2	10
Beverley	2	—	—	2	—	4
Billericay	—	—	—	—	2	2
Birkenhead	6	—	9	13	6	34
Birmingham	—	—	1	—	—	1
Birmingham Industrial Schools	1	1	—	—	—	2
Boston	2	—	2	—	—	4
Boys' Home, Regents Park, London	1	—	—	—	—	1
Brackley	2	—	1	1	—	4
Bradford	1	—	6	5	3	15
Braintree	2	—	—	—	—	2
Bramley	—	—	—	1	—	1
Brentford	—	—	—	2	—	2
Brentford District Schools	—	—	1	—	—	1
Bridford	—	—	—	1	—	1
Brighton	—	—	—	—	3	3
Bristol	2	—	—	—	—	2
Bromley	1	4	—	—	—	5
Bromyard	—	3	—	—	—	3
Burslem	2	—	—	—	3	5
Burton-on-Trent	5	—	—	—	1	6
Caister	4	1	4	2	7	18
Cambridge	1	—	—	—	1	2
Cambridge Industrial Schools	1	—	1	1	—	3
Canterbury	—	—	3	—	—	3
Chailey Industrial Schools	1	2	—	—	—	3
Chase Farm Schools	—	6	3	2	—	11
Chatham	—	3	—	—	5	8
Chell	2	—	—	—	—	2
Chelmsford	—	1	—	—	3	4
Chelmsford Industrial Schools	—	3	—	3	2	8
Chelmsford Prison	—	—	1	—	—	1
Chelsea	—	—	2	—	—	2
Chertsey	—	—	—	—	1	1
Chesterton	1	—	—	—	—	1
Chipping Norton	3	—	—	—	—	3
Chorlton	3	—	—	—	—	3
Christchurch	—	—	—	1	—	1
Cirencester	1	—	—	—	—	1
Colchester	—	—	—	—	7	7
Cosford	—	—	—	—	2	2
Cowley Industrial Schools	—	—	—	4	—	4
Cranbrook	—	—	1	—	—	1
Croydon	1	—	—	1	—	2
Darlington	—	1	1	—	—	3
Desford Industrial Schools	3	—	—	1	—	4
Discharged Prisoners' Aid Society	1	1	3	3	—	8
Doncaster	—	—	—	3	—	3
Dover	2	2	—	—	3	7
Dunmow	1	—	—	—	—	1
Eastbourne	—	—	2	1	1	4
Edmonton	—	—	—	2	—	2
Ely	1	—	1	—	—	2
Enfield	2	1	4	—	1	8
Enfield Industrial Schools	2	—	—	—	—	2
Epping	—	1	—	2	—	3
Essex Industrial Home	—	1	2	—	1	4
"Exmouth," H.M.S.	—	—	—	1	—	1
Farringdon	—	1	1	—	—	2
Fazakerley Home	—	—	—	3	1	4
Fulham	—	1	—	—	—	1
Gloucester	—	—	—	2	—	2
Goole	—	—	—	2	—	2
Grantham	1	1	—	—	1	3
Greenwich	—	—	—	—	1	1
Greenwich Hospital Schools	6	2	—	2	—	10

LIST of UNIONS, &c.—*continued.*

Unions, &c.	Number received in each Year.					Total.
	1889.	1890.	1891.	1892.	1893.	
Guildford	4	—	—	—	—	4
Guisborough	—	—	—	1	1	2
Hadley	—	—	—	1	—	1
Halifax Industrial Schools	—	—	—	—	1	1
Hampstead	—	—	—	—	1	1
Hastings	—	—	3	—	1	4
Hatcham	—	—	2	—	—	2
Headington	—	1	—	—	—	1
Helstead	3	—	—	1	1	5
Henley	1	—	—	—	—	1
Hertford	2	2	2	—	3	9
Hitchin	1	1	—	—	—	2
Holbeach	5	3	—	—	—	8
Huddersfield	—	1	2	1	2	6
Hull	5	8	9	5	11	38
Hull Orphan Home	—	—	—	—	1	1
Ipswich	—	—	—	1	—	1
Isle of Wight	—	—	—	—	1	1
Isleworth	—	1	—	—	—	1
Itchen	1	—	—	—	—	1
King's Norton	—	—	—	—	2	2
Kirkdale	—	—	—	—	3	3
Kirkdale Industrial Schools	—	—	1	—	—	1
Knutsford	1	—	—	1	—	2
Lambeth	—	8	—	—	—	8
Lambworth Industrial Schools	—	—	—	1	—	1
Leeds Industrial Schools	5	2	3	3	—	13
Leeds Reformatory	3	—	—	1	—	4
Leicester	—	—	—	—	3	3
Leicester Industrial Schools	—	1	—	—	—	1
Linton	—	5	—	1	—	6
Liverpool	1	2	—	2	3	8
Liverpool Industrial Schools	—	3	3	8	—	14
Louth	2	—	—	—	—	2
Lowestoft	—	—	—	1	—	1
Maidstone	—	1	—	—	—	1
Malling	—	—	—	1	—	1
Malmesbury	1	2	—	1	2	6
Market Weighton Reformatory	—	—	—	1	—	1
Marylebone Schools	—	—	1	—	—	1
Medway	2	4	—	—	—	6
Melksham	—	1	—	—	—	1
Melton Mowbray	1	—	—	—	—	1
Middlesbrough	6	3	3	7	7	26
Midhurst	1	—	1	—	—	2
Mildenhall	—	—	1	—	—	1
Milton	1	—	—	—	—	1
"Mount Edgecumbe," H.M.S.	1	—	—	—	—	1
Nacton	—	—	2	—	—	2
Newmarket	—	3	—	—	—	3
Northampton	1	—	—	—	—	1
Nottingham	2	2	5	1	2	12
Oakham	—	1	—	—	—	1
Oldham	—	10	—	11	—	21
Oulton	—	—	—	1	—	1
Peterborough	—	1	—	—	—	1
Petersfield	—	2	—	—	2	4
Poole	—	—	—	—	1	1
Portsea	2	4	—	—	—	6
Portsmouth	—	1	1	3	2	7
Prescot	—	—	—	—	1	1
Preston	2	—	1	—	4	7
Radford Training Schools	1	—	1	—	4	6
Reigate	1	—	—	—	—	1
Ringwood	—	—	1	—	—	1
Risbridge	—	—	1	—	—	1
Romford	2	3	—	—	4	9
Romford Parochial Schools	—	—	—	4	—	4
Romsey	—	2	—	—	—	2
Rugby	1	—	—	—	—	1
St. George's Industrial Schools	—	1	—	—	—	1

LIST OF UNIONS, &c.—*continued*.

Unions, &c.	Number received in each Year.					Total.
	1889.	1890.	1891.	1892.	1893.	
St. Giles' Mission, Holborn -	8	8	3	6	—	25
St. Ives -	—	—	—	1	—	1
St. Saviour's -	—	1	—	—	—	1
St. Vincent Industrial Schools -	—	1	—	—	—	1
Salford -	1	—	—	—	—	1
Scarborough -	—	—	—	—	1	1
Sevenoaks -	—	3	—	—	2	5
Shadwell Industrial Schools -	—	1	1	—	—	2
"Shaftesbury," H.M.S. -	—	—	—	6	6	12
Shardlow -	3	—	—	—	—	3
Sheerness -	3	1	—	—	—	4
Sheffield Industrial Schools -	—	2	—	—	—	2
Sheppey -	2	—	—	1	—	3
Sherborne -	—	1	—	—	—	1
Solihull -	1	—	1	1	—	3
Southampton -	—	—	3	—	—	3
Spalding -	1	1	—	—	—	2
Staffordshire -	—	—	—	—	3	3
Staines -	—	4	—	3	1	8
Stockport -	7	—	—	2	—	9
Stockport Industrial Schools -	—	—	—	1	—	1
Stockton -	1	8	—	4	—	13
Stonehouse -	—	1	—	—	—	1
Stonway -	—	3	—	—	—	3
Stow-on-the-Wold -	1	1	—	—	—	2
Sutton -	—	—	—	—	1	1
Swinton -	—	1	—	—	—	1
Swinton Industrial Schools -	5	4	—	—	—	9
Tendring -	—	1	1	3	1	6
Thorne -	—	1	—	—	—	1
Thornton Reformatory -	—	—	1	—	—	1
Tonbridge -	—	11	—	—	—	11
Walsall -	—	—	—	—	1	1
Walsall Industrial Schools -	1	—	—	—	—	1
Warrington -	1	—	—	—	—	1
Warrington Industrial Schools -	1	—	—	—	—	1
Warwick -	—	2	1	—	—	3
Watford -	—	—	1	—	2	3
Watford Parochial Schools -	—	—	3	—	—	3
West Bromwich -	—	2	—	3	—	5
West Derby -	—	5	—	3	4	12
West London Schools -	10	6	1	—	—	17
Whitby -	2	1	—	2	2	7
Whitechapel -	1	—	—	—	—	1
Whitnass -	—	1	—	—	—	1
Wickham -	—	—	1	—	—	1
Wimborne -	—	—	1	1	—	2
Winchester -	1	—	—	—	—	1
Windsor -	1	—	—	—	—	1
Wisbech -	1	2	1	1	—	5
Withington -	1	—	—	—	—	1
Wolverhampton -	4	—	1	4	1	10
Wolverhampton Cottage Homes -	—	—	1	1	—	2
Worksop -	2	—	—	—	—	2
Worthing -	—	—	—	—	1	1
Wortley -	—	—	—	—	3	3
Total apprenticed by public and other bodies -	201	203	125	167	161	857
Boys otherwise apprenticed :—						
From Grimsby -	34	28	26	26	32	146
From elsewhere -	113	68	64	84	88	417
Total apprenticed from 1889 to 1893 -	348	299	215	277	281	1,420

HOUSE OF LORDS OFFICES ESTIMATE.

RETURN to an Order of the Honourable The House of Commons,
dated 24 April 1894;—for

COPY “of CORRESPONDENCE between the Secretary to the Treasury and
the Clerk of the Parliaments respecting the Estimate of the House of
Lords Offices.”

(*Sir John Hibbert*)

Ordered, by The House of Commons, to be Printed,
24 April 1894.

LONDON:
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90, WEST NILE STREET, GLASGOW; or
HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

COPY of Correspondence between the Secretary to the Treasury and the Clerk of the Parliaments respecting the Estimate of the House of Lords Offices.

Sir,

Treasury Chambers, 19 January 1894.

THE Lords Commissioners of Her Majesty's Treasury have had before them the Estimate of the House of Lords Offices, 1894-95, transmitted by you on the 15th ultimo. They observe that the amount of that Estimate is 42,288*l.*, being 693*l.* in excess of the Grant for the current year, as reduced in Committee of Supply of the House of Commons.

I am to state that it will not be possible for Her Majesty's Government to submit to the House of Commons a larger Vote than that granted during the present year; and they have, therefore, to request that the Authorities of the House of Lords will reconsider the proposed Estimate with a view to its reduction to a total amount not exceeding that of the Grant for the current year, viz., 41,595*l.*

The Clerk of the Parliaments.

I am, &c.
(signed) *John T. Hibbert.*

Sir,

Treasury Chambers, 8 February 1894.

REFERRING to my letter of the 19th ultimo, I am directed by the Lords Commissioners of Her Majesty's Treasury to inform you that it is now necessary to close the Civil Service Estimates for the coming year.

In the absence of a reply to that letter, My Lords have found it necessary to assume that the provision of 41,595*l.* for the House of Lords Offices next Session will be divided between the several Sub-Heads in the same proportions as the Grant for the current year.

My Lords propose to insert a note on page 74 of the Estimate to the effect that no details can be given for 1894-95, but the details of 1893-94 are repeated for convenience of reference.

The Clerk of the Parliaments.

I am, &c.
(signed) *John T. Hibbert.*

Sir,

House of Lords, 10 February 1894.

I HAVE to acknowledge the receipt of your letter of yesterday's date, and to express my regret that I have been unavoidably prevented from submitting earlier to the House of Lords Offices Committee your previous letter of the 19th ultimo relative to the House of Lords Estimate.

I am now directed by the Committee, in reply to that letter, to state that their Lordships are unable to reduce the Estimate which they forwarded to the Treasury in order that it might be placed before the House of Commons.

I am to point out, for the information of the Lords Commissioners of Her Majesty's Treasury, that the whole of the sum of 693*l.* referred to in that letter is required for the salaries of the existing staff, and that of that sum 193*l.*, which is in excess of the sum asked for last year, represents the automatic increments of the salaries, and that any such reduction as is proposed would necessarily involve a breach of faith with the Officers of the House.

I am, &c.
(signed) *Henry Graham.*

To the Right Hon.
Sir John T. Hibbert, K.C.B., M.P.,
&c. &c. &c.,
Treasury.

Sir, House of Lords, 16 February 1894.

THE House of Lords Offices Committee has further considered your letters to me of the 19th ultimo and the 8th instant, relative to the House of Lords Estimate for 1894-95, and has directed me to call the attention of the Lords Commissioners of Her Majesty's Treasury to the terms of the arrangement of 1868, which are as follows :—

"1st. That, at the commencement of every year a detailed statement and estimate should be drawn up by the Clerk of the Parliaments of the salaries and expenses relating to the House of Lords, similar to the annual Estimate of the salaries and expenses of the House of Commons, together with a statement of the existing amount and balance of the Fee Fund, and the Estimate of the probable receipts during the then current year.

"2nd. That this Estimate and statement should be laid before the proper Committee of the House of Lords, and having been approved by them, should be transmitted to the Treasury to be laid before Parliament with the annual Estimates.

"3rd. That after reserving so much as may be required, together with the amount derived from the interest of the invested Fee Fund hereinafter mentioned, to meet the retiring allowances granted by the House to their Officers, all the fees payable to the House of Lords after the 5th January 1869 shall be paid over to the Treasury in such manner as the Lords Commissioners shall direct, and that from and after the said 5th January 1869 all the salaries and expenses of the establishment of the House of Lords, save and except any such retiring allowances as aforesaid, shall be paid by the Treasury out of the fees paid over to them, and in case these fees shall be deficient, then, as in former years, out of such sums as shall be placed in the Estimates and voted by Parliament in aid of the deficiency of fees."

The refusal of the Treasury to submit to Parliament the Estimate so prepared and approved appears to their Lordships to be entirely inconsistent with this arrangement.

Further, the Committee direct me to point out that the Officers of the House of Lords have been appointed on the understanding that they would receive certain salaries, and that it is impossible to reduce the scale of those salaries in the case of the present holders of office without breaking faith with them.

Therefore, without discussing any further questions relating to the Estimate, their Lordships are of opinion that the proposed reduction, which involves such a breach of faith, cannot be carried into effect.

To the Right Hon.
Sir John T. Hibbert, K.C.B., M.P.,
&c. &c. &c.,
Treasury.

I am, &c.
(signed) *Henry Graham.*

Sir,

Treasury Chambers, 12 March 1894.

THE Lords Commissioners of Her Majesty's Treasury have had under consideration your letters of the 10th and 16th February on the Estimate for the House of Lords in 1894-95.

They direct me to state that the arrangement of 1868 (described by a slip of the pen in your letter as the arrangement of 1888) distinctly contemplated that the Vote of the House of Lords should be subjected to the judgment of the House of Commons; that the House of Commons has pronounced a judgment upon it in the last Session of Parliament; and that it is not likely, as far as My Lords can form an opinion, to alter that judgment.

It would, therefore, be useless for the Treasury to submit an Estimate which it is not probable that the House of Commons would sanction.

My Lords cannot but think that there are circumstances which make it difficult to maintain the existing Estimate, and they would venture to express their hope that the House of Lords may find it in their power to make some proposal which may facilitate an agreement with the House of Commons.

The Clerk of the Parliaments.

I am, &c.
(signed) *John T. Hibbert.*

HOUSE OF LORDS OFFICES ESTIMATE.

COPY of CORRESPONDENCE between the Secretary
to the Treasury and the Clerk of the Parliaments
respecting the Estimate of the House of Lords
Offices.

(*Sir John Hibbert.*)

Ordered, by The House of Commons, to be Printed,
24 April 1894.

[*Price 1d.*]

INTOXICATING LIQUORS (LICENCES REFUSED).

RETURN to an Address of the Honourable The House of Commons,
dated 15 March 1894 ;—for,

“RETURN of the Number of VICTUALLERS', BEERHOUSE, and other
LICENCES for the Sale of INTOXICATING LIQUORS, the Renewal of
which has been Refused, in the Year 1893, by the JUSTICES OF THE
PEACE in each LICENSING DISTRICT in *England* and *Wales*, showing
in each Case the Ground of such Refusal, especially when such Ground
was, in any instance, that the Licence was not Required; and showing
also the Result of Appeal, if any (in continuation of Parliamentary Paper,
No. 306, of Session 1893).”

Home Office, }
6 June 1894. }

GEORGE W. E. RUSSELL.

(*Mr. John Ellis.*)

Ordered, by The House of Commons, to be Printed,
8 June 1894.

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90, WEST NILE STREET, GLASGOW; or
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RETURN of the Number of VICTUALLERS', BEERHOUSE, and other LICENSES for the Sale of INTOXICATING LIQUORS, the Renewal of which has been Refused, in the Year 1893, by the JUSTICES OF THE PEACE in each LICENSING DISTRICT in *England* and *Wales*, showing in each Case the Ground of such Refusal, especially when such Ground was, in any instance, that the License was not Required; and showing also the Result of Appeal, if any (in continuation of Parliamentary Paper, No. 306, of Session 1893).

C O U N T I E S.

LICENSING DISTRICT.	Number of Victuallers Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND.					
BEDFORDSHIRE:					
Amphill District - - - -	0	0	0	(1.) That during the past year the holder had been convicted of an offence under the Intoxicating Liquor Act.	On appeal to quarter sessions license granted.
Bedford Division - - - -	0	0	0		
Biggleswade District - - - -	0	0	0		
Leighton Buzzard District - -	1	0	0	(2.) That the house had been misconducted.	
				(3.) That the house was unnecessary for the requirements of the neighbourhood.	
Luton District - - - -	0	0	0		
Sharnbrook District - - - -	1	0	0	The house not required. - -	License granted.
Woburn District - - - -	0	0	0		
BERKSHIRE:					
Abingdon District - - - -	0	0	0		
Faringdon District - - - -	0	0	0		
Forest District - - - -	0	0	0		
Ilstey District - - - -	0	0	0		
Lamborne District - - - -	0	0	0		
Maidenhead District - - - -	0	0	0		
Newbury District - - - -	0	0	0		
Reading District - - - -	0	0	0		
Moreton District - - - -	0	0	0		
Wantage District - - - -	0	0	0		
Windsor District - - - -	0	0	0		
BUCKINGHAMSHIRE:					
Ashendon District - - - -	0	0	0		
Aylesbury District - - - -	0	0	0		
Buckingham District - - - -	0	0	0		
Burnham District - - - -	0	0	0		
Chesham District - - - -	0	0	0		
Cottesloe District - - - -	0	0	0		
Desborough:					
First District - - - -	0	0	0		
Second District - - - -	0	0	0		
Newport Pagnell District - -	0	0	0		
Stoke District - - - -	0	0	0		
Stony Stratford District - -	0	0	0		
Winalow District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
CAMBRIDGESHIRE:					
Arrington and Melbourn District -	0	0	0		
Bottisham District - - -	0	0	0		
Cambridge District - - -	0	0	0		
Caxton District - - - -	0	0	0		
Linton District - - - -	0	0	0		
Newmarket District - - -	0	0	0		
ISLE OF ELY:					
Chatteris District - - - -	0	0	0		
Ely and South Witchford District -	1	0	0	Justices considered that the li- cense was not required.	
North Witchford District - -	0	0	0		
Whittlesey and Thorney District -	0	0	0		
Wisbech District - - - -	0	0	0		
CHESHIRE:					
Altrincham District - - -	0	0	1	Permitting premises to be used for the purpose of betting.	Appeal allowed, and license granted.
Broxton District - - - -	0	0	0		
Bucklow District - - - -	0	0	0		
Chester Castle District - - -	0	0	0		
Daresbury District - - - -	0	0	0		
Eddisbury District - - - -	0	0	0		
Hyde District - - - - -	0	0	0		
Leftwich District - - - -	1	0	0	Owner had previously undertaken not to apply for a renewal, and the tenant made the application for renewal unknown to his landlord.	No appeal.
Nantwich District - - -	1	0	0	Not stated by justices - -	No appeal.
Northwich District - - -	0	0	0		
Prestbury District - - - -	0	1	0	Previous conviction, and that the license was not required.	
Runcorn District - - - -	0	0	0		
Stockport District - - - -	0	0	0		
Wirral District - - - - -	1	0	0	Disorderly character of house, and not required.	Appeal allowed; license renewed.
	0	5	0	(1.) Disorderly character, and not required.	No appeal.
				(2.) Disorderly character - -	Appeal dismissed.
				(3.) Disorderly character, and that house not of full value, as by law required.	- - ditto.
				(4.) That house not of full value, as by law required.	Appeal allowed; license renewed.
				(5.) That former licensed house had ceased to exist, and that premises were new, and, there- fore, license could not be re- newed.	Appeal dismissed, but on special case to Queen's Bench Divi- sion, conviction on which the justices decided was quashed, and proceedings are still pending, and li- cense will have to be renewed.
CORNWALL:					
East, Middle, District - - -	0	0	0		
„ North, District - - - -	0	0	0		
„ South, District - - - -	0	0	0		
Kerrier, East, District - - -	0	0	0		
„ West, District - - - -	0	0	0		
Leenewth District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND— <i>continued.</i>					
CORNWALL— <i>continued.</i>					
Penwith, East, District - - -	0	0	0		
„ West, District - - -	0	0	0		
Powder, Hundred of (Tywardreath) District.	0	0	0		
Powder, East, District - - -	0	0	0		
„ South, District - - -	0	0	0		
„ West, District - - -	0	0	0		
Pydar, East, District - - -	0	0	0		
Stratton District - - - -	1	0	0	Premises in bad repair and ob- jection to the License being held by a female.	
Trigg District - - - -	0	0	0		
West District - - - -	0	0	0		
ISLES OF SCILLY :					
Scilly Islands District - - -	0	0	0		
CUMBERLAND :					
Allerdale-above-Derwent District -	0	0	0		
Allerdale-below-Derwent District -	0	0	0		
Bootle District - - - -	0	0	0		
Brampton District - - - -	0	0	0		
Cumberland Ward District - - -	0	0	0		
Derwent District - - - -	0	0	0		
Keswick District - - - -	0	0	0		
Leath Ward District - - - -	2	0	0	Owners declined to apply for a renewal.	
Longtown District - - - -	0	0	0		
Workington District - - - -	0	0	0		
DERBYSHIRE:					
Alfreton District - - - -	0	0	0		
Apple ree (Sudbury) District -	0	0	0		
Ashborne District - - - -	0	0	0		
Bakewell District - - - -	0	0	0		
Belper District - - - -	0	0	0		
Buxton District - - - -	0	0	0		
Chapel-en-le-Frith District - -	2	0	0	The renewal of the license of the Hat and Feather Inn was refused on the following grounds:— 1. That it was not required owing to the number of li- censed houses in the immediate vicinity. 2. That it did not afford sufficient accommodation.	Appeal made to quarter sessions at Derby on 18th October 1893, when the decision of the licensing justices was upheld.
Chesterfield District - - - -	0	0	0	The renewal of the license of the Derby Hotel was refused on the ground that it was not required, inasmuch as there was another licensed house within a few yards and the population was very sparse thereabouts.	No appeal.

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued*.COUNTIES—*continued*.

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
DERBYSHIRE—continued.					
Derby District - - -	0	0	0		
Eckington District - - -	0	0	0		
Glossop District - - -	0	0	0		
Repton District - - -	0	0	0		
Smalley District - - -	0	0	0		
Swadlincote District - - -	0	0	0	The police gave notice of intention to oppose renewal on the grounds that :— 1. The license was not required. 2. The house as a structure was unsafe and on sanitary grounds unfit for habitation.	
Wirksworth District - - -	1	0	0		
DEVONSHIRE :					
Axminster District - - -	0	0	0	No proper application for a renewal has been made.	
Bideford District - - -	0	0	0		
Braunton District - - -	0	0	0		
Crediton District - - -	0	0	0		
Crockernwell District - - -	0	0	0		
Cullompton District - - -	0	0	0		
Ermington and Plympton District -	0	0	0		
Hatherleigh District - - -	0	0	0		
Holsworthy District - - -	0	0	0		
Honiton District - - -	0	0	0		
Lifton District - - -	0	0	0		
Ottery District - - -	0	0	0		
Paignton District - - -	0	0	0		
Roborough, Midland, District -	0	0	0		
„ South, District - - -	0	0	0		
South Molton District - - -	0	0	0		
Stanborough and Coleridge District	0	0	0		
Tavistock District - - -	0	0	0		
Teignbridge District - - -	0	0	0		
Torquay District - - -	0	0	0		
Torrington, Great, District - -	0	0	0		
Wonford District - - -	0	0	2	There were already sufficient for wants of the neighbourhood.	No appeal.
Woodbury District - - -	0	0	0		
DORSETSHIRE :					
Blandford District - - -	0	0	0		
Bridport District - - -	0	0	0		
Cerne District - - -	0	0	0		
Dorchester District - - -	0	0	0		
Shaston District - - -	0	0	0		
Sherborne District - - -	0	0	0		
Sturminster District - - -	0	0	0		
Wareham District - - -	0	0	0		
Wimborne District - - -	0	0	0		
DURHAM :					
Barnard Castle District - - -	0	0	0		
Bishop Auckland District - - -	0	0	0		
Castle Eden District - - -	0	0	0		
Chester-le-Street District - - -	0	0	0		
Darlington District - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
DURHAM—<i>continued.</i>					
Durham District - - - -	0	0	0		
Gateshead District - - - -	0	0	0		
Houghton-le-Spring District - -	1	1	0	(1.) House totally unfit for purpose. (2.) Fourth conviction under 35 & 36 Vict. c. 94, s. 13.	No appeal. - ditto.
Lanchester and Consett District -	0	0	0		
Seaham Harbour District - -	0	0	0		
South Shields District - - -	0	0	0		
Stanhope District - - - -	0	0	0		
Stockton District - - - -	0	0	0		
Sunderland District - - - -	0	0	0		
West Hartlepool District - - -	0	0	0		
Wolsingham District - - - -	0	0	0		
ESSEX:					
Beacontree District - - - -	1	0	0	Disorderly and badly conducted house.	Decision of justices re- versed on appeal, and license renewed.
Brentwood District - - - -	0	0	0		
Chelmsford District - - - -	0	0	0		
Dengie District - - - -	0	0	0		
Dunmow District - - - -	0	0	0		
Epping District - - - -	0	0	0		
Freshwell District - - - -	0	0	0		
Harlow District - - - -	0	0	0		
Hinckford, North, District (Castle Hadingham).	0	0	0		
Hinckford, South, District (Hal- stead).	0	0	0		
Hinckford, South, District (Brain- tree).	0	0	0		
Lexden and Winstree District -	0	0	0		
Ongar District - - - -	0	0	0		
Orsett District - - - -	0	0	0		
Rochford District - - - -	0	1	0	That no business had been carried on for a considerable time.	
Romford District - - - -	0	0	0		
Tendring District - - - -	0	0	0		
Walden District - - - -	0	0	0		
Witham District - - - -	0	0	0		
GLOUCESTERSHIRE:					
Berkeley District - - - -	0	0	0		
Campden District - - - -	0	0	0		
Cheltenham District - - - -	0	0	0		
Cirencester District - - - -	0	0	0		
Coleford District - - - -	0	0	0		
Dursley District - - - -	0	0	0		
Fairford District - - - -	0	0	0		
Gloucester District - - - -	0	0	0		
Horsley District - - - -	0	0	0		
Lawford's Gate District - - -	0	0	0		
Lydney District - - - -	0	0	0		
Moreton-in-Marsh District - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (in any).
ENGLAND—continued.					
GLOUCESTERSHIRE—continued.					
Newent District - - - -	1	0	0	The house had not been properly conducted, and also was not required for the accommodation of the inhabitants and district.	Appealed against, but the decision of the justices was confirmed.
Newnham District - - - -	0	0	0		
Northleach District - - - -	0	0	0		
Sodbury District - - - -	0	0	0		
Stow District - - - -	0	0	0		
Stroud District - - - -	0	0	0		
Tetbury District - - - -	0	0	0		
Tewkesbury District - - - -	0	0	0		
Thornbury District - - - -	0	0	0		
Whitminster District - - - -	0	0	0		
Winchcomb District - - - -	0	0	0		
Wotton-under-Edge District - - - -	0	0	0		
HEREFORDSHIRE :					
Bredwardine District - - - -	0	0	0	(1.) That there were sufficient public-houses in the neighbourhood without the one in question. (2.) That the tenant was not a fit and proper person to hold a license.	That the license be granted to a new and unexceptional tenant.
Bromyard District - - - -	0	0	0		
Dore District - - - -	1	0	0		
Harewood End District - - - -	0	0	0		
Hereford District - - - -	0	0	0		
Kington District - - - -	0	0	0		
Ledbury District - - - -	0	0	0		
Leominster District - - - -	0	0	0		
Ross District - - - -	0	0	0		
Weobley District - - - -	0	0	0		
Wigmore District - - - -	0	0	0		
HERTFORDSHIRE :					
Albury District - - - -	0	0	0		
Barnet District - - - -	0	0	0		
Bishops Stortford District - - - -	0	0	0		
Buntingford District - - - -	0	0	0		
Cheshunt District - - - -	0	0	0		
Dacorum District - - - -	0	0	0		
Hatfield District - - - -	0	0	0		
Hertford District - - - -	0	0	0		
Hitchin District - - - -	0	0	0		
Odsey District - - - -	0	0	0		
St. Albans District - - - -	0	0	0		
Stevenage District - - - -	0	0	0		
Ware District - - - -	0	0	0		
Watford District - - - -	0	0	0		
Welwyn District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
HUNTINGDONSHIRE :					
Hurstingstone District - - -	0	0	0	No licenses were refused, but the police served notice of objection to the renewal of two beerhouse licenses, on the ground that such licenses were not required. The holders made no application, and did not appear, consequently such licenses were struck out.	
Leightonstone District - - -	0	0	0		
Norman Cross District - - -	0	0	0		
Ramsey District - - -	0	0	0		
Toseland District - - -	0	0	0		
KENT :					
Ashford District - - -	0	0	0	License not required. The house had been unoccupied for several months.	No appeal.
Aylesford, North, District - -	0	1	0		
„ Upper South, District -	0	0	0		
Bearsted District - - -	0	0	0		
Bromley District - - -	0	0	0		
Cranbrook District - - -	0	0	0		
Dartford District - - -	0	0	0		
Dover District - - -	0	0	0		
Elham District - - -	0	0	0		
Faversham District - - -	0	0	0		
Ramsgate District - - -	0	0	0		
Romney Marsh District - -	0	0	0		
St. Augustine's, West, Canterbury District.	0	0	0		
Sevenoaks District - - -	1	0	0		
Tonbridge District - - -	0	0	0		
Tunbridge Wells District - -	0	0	0		
Wingham, or St. Augustine's, East, District	0	0	0		
LANCASHIRE :					
Amounderness District - - -	0	0	0	The grounds of refusal were— (1.) That the licensed victualler had been convicted of permitting drunkenness within the preceding 12 months. (2.) That the house was not required for the accommodation of the public, and (3.) That the house was too far removed from police supervision. *The ground of refusal of this license was that the applicant had failed to produce satisfactory evidence of good character, and that the house was of a disorderly character.	Appeal allowed.
Ashton-under-Lyne District - -	0	0	0		
Blackburn, Higher, District - -	0	0	0		
„ Lower, District - - -	0	0	0		
Bolton District - - -	0	0	0		
Bury District - - -	0	0	0		
Childwall District - - -	0	0	0		
Church District - - -	0	0	0		
Clitheroe District - - -	0	0	0		
Colne District - - -	1	*1	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
LANCASHIRE—continued.					
Garstang District - - - -	0	0	0	License not required, and unnecessary.	
Hawkshead District - - - -	0	0	0		
Hornby District - - - -	0	0	0		
Kirkdale District - - - -	0	0	0		
Kirkham District - - - -	1	0	0		
Leigh District - - - -	0	0	0		
Leyland District - - - -	0	0	0		
Lonsdale, North, District - -	0	0	0		
Lonsdale, South of the Sands, District.	0	0	0		
Manchester District - - - -	0	0	0		
Middleton District - - - -	0	0	0		
Oldham District - - - -	0	0	0		
Ormskirk District - - - -	0	0	0		
Over Darwen District - - - -	0	0	0		
Prescot District - - - -	0	0	0		
Rossendale District - - - -	0	0	1 off beer.	No necessity - - - -	No appeal.
St. Helens District - - - -	0	0	0		
Southport District - - - -	0	0	0		
Walton-le-Dale District - -	0	0	0		
Warrington District - - - -	0	0	0		
Wigan District - - - -	0	0	0		
LEICESTERSHIRE:					
Ashby-de-la-Zouch District - -	0	0	0	(1.) That on the 31st May 1893 Samuel Priestly Simpson, the then holder of the license, was convicted of opening or keeping open his licensed premises for the sale of intoxicating drink during prohibited hours. (2.) That the said premises and the property surrounding the same were so constructed and situated that the police could not have proper control and supervision of the said premises. (3.) That the said premises were not adapted for carrying on the business of a licensed victualler. (4.) That the said house was not necessary for the requirements of the neighbourhood.	On appeal to the Court of Quarter Sessions the license was renewed.
Belvoir District - - - -	0	0	0		
Leicester District - - - -	0	0	0		
Loughborough District - - - -	1	0	0		
Lutterworth District - - - -	0	0	0		
Market Bosworth District - -	0	1	0		
Market Harborough District - -	0	0	0		
Melton Mowbray District - -	0	0	0		
Norton, East, District - - - -	0	0	0		
LINCOLNSHIRE:					
PARTS OF HOLLAND:					
Elloe District - - - -	0	0	0	The holder of the license having been repeatedly convicted for offences against the Licensing Act.	No appeal.
Kirton and Skirbeck District -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
LINCOLNSHIRE—continued.					
PARTS OF KESTIVEN:					
Bourn District - - - -	0	0	0	Refused 4th December 1892. License not required.	Renewed on appeal to Quarter Sessions on 3rd January 1893.
Lincoln District - - - -	0	0	0		
Sleaford District - - - -	0	0	0		
Spittlegate District - - - -	0	1	0		
PARTS OF LINDSEY:					
Alford or Caleworth District - -	0	0	0	(1.) That two convictions for permitting drunkenness had been recorded against the house. (2.) That the house was not re- quired.	Appeal allowed at Quarter Sessions, and license granted.
Barton-on-Humber District - -	0	0	0		
Brigg District - - - -	0	0	0		
Caistor District - - - -	0	0	0		
Epworth District - - - -	0	0	0		
Gainsborough District - - - -	0	0	0		
Great Grimsby, (or Bradley Haver- stoe) District.	0	0	0		
Horncastle District - - - -	0	0	0		
Lincoln, Bail and Close of, District	0	0	0		
Louth District - - - -	0	0	0		
Market Rasen District - - - -	1	0	0	The justices did not consider the license necessary.	The justices' decision was reversed on appeal.
Spilsby District - - - -	0	0	0		
Winterton District - - - -	0	0	1		
			Beer dealers addi- tional license off.		
Wraghy District - - - -	1	0	0	That license not required - -	Magistrates' decision re- versed.
LONDON COUNTY:					
Blackheath District - - - -	1	1	0	(1.) That the licensee had been convicted and fined 2l. and 2s. costs for selling liquor on Sun- day during prohibited hours to other than <i>bonâ fide</i> travel- lers.	No appeal. License granted to a new tenant under the 14th section on the 14th November 1893.
				(2.) That the house had been closed in March 1892, and that no business had been carried on there since, except as a lodging-house.	
Finsbury District - - - -	0	0	0	Not required - - - -	<i>Note.</i> —One victuallers' license, five beerhouse licenses, 12 other licenses lapsed, not being wanted.
Holborn District - - - -	0	0	0		
Newington District - - - -	3	2	3		
Paddington District - - - -	0	0	0	There were no licenses refused in 1893. Three licenses were al- lowed to lapse, no applications for their renewal having been made.	
Penge District - - - -	0	0	0		
St. George's, Hanover Square, Dis- trict.	0	0	0		
St. James' District - - - -	0	0	0	No renewals were refused, but two "On" licenses and four "Off" licenses were not re- newed by the licensed persons.	
St. Margaret's District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
LONDON COUNTY—<i>continued.</i>					
St. Marylebone District - -	5	3	1	(1.) Refused. Opposed by inhabitant of the neighbourhood. (2.) Not applied for; houses closed. (3.) (4.) Not applied for; houses pulled down. (5.) (6.) Not applied for; houses closed.	
St. Pancras District - - -	0	0	0		
Stoke Newington, Edmonton District	0	0	0		
Strand District - - - -	0	0	0		
Tower District - - - -	8	6	1	(1.) Two convictions for permitting drunkenness.	Appeal allowed.
				(2.) License not required - -	- - ditto.
				(3.) - - ditto - - -	Appeal dismissed.
				(4.) Two convictions; diluting beer; smuggling spirits.	- - ditto.
				(5.) Conviction for serving drunken person.	Appeal allowed.
				(6.) Conviction for assaulting a police constable.	No appeal prosecuted.
				(7.) Conviction for serving a police constable on duty.	Appeal allowed.
				(8.) Conviction for smuggling spirits.	No appeal prosecuted.
				(9.) Conviction; harbouring a police constable.	Appeal allowed.
				(10.) Not the real resident owner and occupier, as by law required.	No appeals prosecuted.
				(11.) - - ditto - ditto -	Appeal dismissed.
				(12.) License not required -	No appeal prosecuted.
THE CITY OF LONDON - - -	0	0	0		
TOWER, LIBERTY OF THE - -	0	0	0		
MIDDLESEX:					
Brentford District - - -	1	0	0	That there were so many in the neighbourhood, and it was in such a position as to be unnecessary.	License renewed.
Edmonton (including Enfield) District.	0	0	0		
Gore District - - - -	0	0	0		
Highgate District - - - -	0	1	0	Disorderly conduct, arising out of boxing competitions which had taken place on several occasions in the licensed premises.	No appeal.
South Mimms District - - -	0	0	0		
Spelthorne District - - -	0	0	0		
Uxbridge District - - - -	0	0	0		
Willesden District - - - -	0	0	0		
MONMOUTHSHIRE:					
Abergavenny District - - -	0	0	0		
Bedwellty District - - - -	0	0	0		
Caerleon District - - - -	0	0	0		
Chepstow District - - - -	0	0	0		
Monmouth District - - - -	0	0	0		
Newport District - - - -	0	0	0		
Pontypool District - - - -	0	2	0	(1.) On the ground that applicant was not the real resident occupier and holder. (2.) On the ground that the house was of a disorderly character.	No appeal. License granted on appeal.
Raglan District - - - -	0	0	0		
Skenfrith District - - - -	0	0	0		
Trelleck District - - - -	0	0	0		
Usk District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
NORFOLK :					
Blofield and Walsham District -	0	0	0	That building not commenced.	
Clackclose District - - -	0	0	0		
Clavering and Loddon District -	0	0	0		
Depwade District - - -	0	0	0		
Diss District - - -	0	0	0		
Earsham District - - -	0	0	0		
Erpingham, North, District - -	1 (provi- sional).	0	0		
Erpingham, South, District - -	0	0	0		
Eynsford District - - -	0	0	0		
Flegg, East and West, District -	0	0	0		
Forehoe District - - -	0	0	0		
Freebridge Lynn District - -	0	0	0		
Freebridge Marshland District -	0	0	0		
Gallow District - - -	0	0	0		
Greenhoe, North, District - -	0	0	0		
Greenhoe, South, District - -	0	0	0		
Grimshoe District - - -	0	0	0		
Guiltecross and Shropham District -	0	0	0		
Happing and Tunstead District -	0	0	0		
Holt District - - -	0	0	0		
Launditch and Mitford District -	0	0	0		
Smithdon and Brothercross District	0	0	0		
Swainsthorpe District - - -	0	0	0		
Taverham District - - -	0	0	0		
Wayland District - - -	0	0	0		
NORTHAMPTONSHIRE :					
Bowden, Little, District - -	0	0	0		
Brackley District - - -	0	0	0		
Daventry District - - -	0	0	0		
Kettering District - - -	0	0	0		
Northampton District - - -	0	0	0		
Oundle District - - -	0	0	0		
Thrapston District - - -	0	0	0		
Towcester District - - -	0	0	0		
Wellingborough District - -	0	0	0		
SOKE OF PETERBOROUGH -					
	0	0	0		
NORTHUMBERLAND :					
Bamburgh Ward District - -	0	0	0		
Bedlingtonshire District - -	0	0	0		
Bellingham District - - -	0	0	0		
Castle Ward, East, District - -	0	0	0		
” West, District - -	0	0	0		
Coquetdale Ward, East, District -	0	0	0		
” North, District - -	0	0	0		
” West, District - -	0	0	0		
Glendale Ward District - -	0	0	0		
Haltwhistle District - - -	0	0	0		
Morpeth Ward District - - -	0	0	0		
Norham and Islandshires District -	0	0	0		
Tindale Ward District - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
NOTTINGHAMSHIRE:					
Bingham District - - -	0	0	0		
Mansfield District - - -	0	0	0		
Newark District - - -	0	0	0		
Nottingham District - - -	0	0	0		
Retford District - - -	0	0	0		
Southwell District - - -	0	0	0		
Worksop District - - -	0	0	0		
OXFORDSHIRE:					
Bampton, East, District - -	0	0	0		
" West, District - -	0	0	0		
Banbury and Bloxham District -	0	0	0		
Bullingdon District - - -	0	0	0		
Chadlington District - - -	0	0	0		
Henley District - - -	0	0	0		
Ploughley District - - -	0	0	0		
Watlington District - - -	0	0	0		
Wootton, North, District - -	0	0	0		
" South, District - -	0	0	0		
Chipping Norton - - -	0	0	0		
RUTLAND COUNTY - - -	0	0	0		
SALOP:					
Albrighton District - - -	0	0	0		
Brimstree-Shifnal District - -	0	0	0		
Brimstree, South, and Chelmarsh District.	0	0	0		
Burford District - - -	0	0	0		
Cleobury Mortimer District - -	0	0	0		
Clun and Purslow District - -	0	0	0		
Condover District - - -	0	0	0		
Drayton District - - -	0	0	0		
Munslow, Lower, and part of Overs and Stottesden District.	0	0	0		
Munslow, Upper, District - -	0	0	0		
Newport District - - -	0	0	0		
Oswestry District - - -	0	0	0		
Pimhill District - - -	0	0	0		
Pontesbury District - - -	0	0	0		
Wem District - - -	0	0	0		
Wellington District - - -	0	0	0		
Whitchurch District - - -	0	0	0		
SOMERSETSHIRE:					
Axbridge District - - -	0	0	0		
Bishop's Lydeard District - -	0	0	0		
Bridgwater District - - -	0	0	0		
Crewkerne District - - -	0	0	0		
Dulverton District - - -	0	0	0		
Dunster District - - -	0	0	0		
Frome District - - -	0	0	0		
Uminster District - - -	0	0	0		
Keynsham District - - -	0	0	0		
Kilmersdon District - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).		
ENGLAND—continued.							
SOMERSETSHIRE—continued.							
Long Ashton District - - -	0	0	0				
Shepton Mallet District - - -	0	0	0				
Somerton District - - - -	0	0	0				
Taunton District - - - -	0	0	0				
Temple Cloud District - - -	0	0	0				
Wellington District - - - -	0	0	0				
Wells District - - - -	0	0	0				
Weston District - - - -	0	0	0				
Williton District - - - -	0	0	0				
Wincanton District - - - -	0	0	0				
Wiveliscombe District - - -	0	0	0				
Yeovil District - - - -	0	0	0				
SOUTHAMPTON:							
Alton District - - - -	0	0	0				
Andover District - - - -	0	0	0				
Basingstoke District - - -	0	0	0				
Droxford District - - - -	0	0	0				
Fareham District - - - -	0	0	0				
Kingsclere District - - - -	0	0	0				
Lymington and New Forest District	0	0	0				
Lymington and New Forest District (Lyndhurst Division).	0	0	0				
Lymington and New Forest District (Hythe Division).	0	0	0				
Odiham District - - - -	1	0	0	Badly conducted. Twice convicted under Section 14 of the Licensing Act, 1872.	No appeal made.		
Petersfield District - - - -	0	0	0				
Ringwood District - - - -	0	0	0				
Romsey District - - - -	0	0	0				
Southampton District - - -	0	0	0				
Winchester District (Winchester Division).	0	0	0				
Winchester District (Alresford Division).	0	0	0				
ISLE OF WIGHT - - - -							
	0	0	0				
STAFFORDSHIRE:							
Bilston District - - - -	0	0	0				
Barton-on-Trent District - - -	0	0	0				
Cheadle District - - - -	0	0	0				
Eccleshall District - - - -	0	0	0				
Handsworth District - - - -	1	0	0	This license was refused by the licensing justices on the ground that the person who asked for the renewal was not a fit and proper person to be entrusted with a license. (1.) One license refused owing to premises being unoccupied for some months prior to licensing meeting. (2.) One license refused owing to present tenant being convicted of permitting drunkenness.	The decision was not appealed against.		
Kingswinford and Wordsley District	2	0	0				
Leek District - - - -	1	0	0				
				License not required for the wants of the neighbourhood.	No appeal.		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
STAFFORDSHIRE—<i>continued.</i>					
Lichfield and Brownhills District -	0	0	0		
Penkridge District - - -	0	0	0		
Pirehill, North, District - -	0	0	0		
Rowley Regis District - - -	0	0	0		
Rugeley District - - - -	0	0	0		
Rushall District - - - -	0	0	0		
Smethwick District - - - -	0	0	0		
Stafford District - - - -	0	0	0		
Stone District - - - -	0	0	0		
Tamworth District - - - -	0	0	0		
Uttoxeter District - - - -	0	0	0		
Wolverhampton District - -	0	0	0		
SUFFOLK, EAST :					
Beccles District - - - -	0	0	0		
Blything District - - - -	0	0	0		
Bosmere and Claydon District -	0	0	0		
Bungay District - - - -	0	0	0		
Framlingham District - - -	0	0	0		
Hartismere District - - -	0	0	0		
Hoxne District - - - -	0	0	0		
Mutford and Lothingland District -	0	0	0		
Samford District - - - -	0	0	0		
Stow District - - - -	0	0	0		
Woodbridge District - - - -	0	0	0		
SUFFOLK, WEST :					
Blackbourn District - - - -	0	0	0		
Boxford District - - - -	0	0	0		
Clare (or Risbridge) District -	0	0	0		
Cosford District - - - -	0	0	0		
Lackford District - - - -	0	0	0		
Melford District - - - -	0	0	0		
Newmarket District - - - -	0	0	0		
Thingoe and Thedwastre District -	0	0	0		
SURREY :					
Chertsey District - - - -	0	0	0		
Croydon District - - - -	0	0	0		
Dorking District - - - -	0	0	0		
Epsom District - - - -	0	0	0		
Farnham District - - - -	1	0	0	License not required, and pre- mises unsuitable for carrying on the business.	No appeal.
Godstone District - - - -	0	0	0		
Guildford District - - - -	0	0	0		
Kingston-on-Thames District -	0	0	0		
Reigate District - - - -	0	0	0		
Richmond District - - - -	0	0	0	Renewal refused on the ground that the license is not required, and also on the ground of con- viction and non-attendance of licensee after notice.	No appeal.
Wandsworth District - - - -	0	1	0		
Wimbledon District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c. —continued.

COUNTIES—continued.

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—continued.					
SUSSEX, EAST:					
Battle District - - - -	0	0	0		
Burwash District - - - -	0	0	0		
Cuckfield District - - - -	0	0	0		
East Grinstead District - - - -	0	0	0		
Frant District - - - -	0	0	0		
Hailsham District - - - -	0	0	0		
Hastings District - - - -	0	0	0		
Hastings District of Hastings Rape	0	0	0		
Hove District - - - -	0	0	0		
Lewes District - - - -	0	0	0		
Rye District - - - -	0	0	0		
Uckfield District - - - -	0	0	0		
SUSSEX, WEST:					
Arundel District - - - -	0	0	0		
Chichester District - - - -	0	0	0		
Horsham District - - - -	0	0	0		
Midhurst District - - - -	0	0	0		
Petworth District - - - -	0	0	0		
Steyning District - - - -	0	0	0		
Worthing District - - - -	0	0	0		
WARWICKSHIRE:					
Alcester District - - - -	0	0	0		
Atherstone District - - - -	0	0	0		
Birmingham District - - - -	0	0	0		
Brailes District - - - -	0	0	0		
Burton Dassett and Kington Dis- trict.	0	0	0		
Coleshill District - - - -	0	0	0		
Coventry District - - - -	0	0	0		
Henley District - - - -	0	0	0		
Kenilworth District - - - -	0	0	0		
Rugby District - - - -	0	0	0		
Solihull District - - - -	0	0	0		
Southam District - - - -	0	0	0		
Stratford and Snitterfield District -	0	0	0		
Warwick District - - - -	0	0	0		
WESTMORLAND:					
Ambleside District - - - -	0	0	0		
East Ward District - - - -	0	0	0		
Kendal Ward District - - - -	0	0	0	Application was made, 4th February 1893, for temporary authority to sell. The application was opposed by the police and several inhabitants of the township, on the ground that it was not required in the neighbourhood, and the justices declined to grant the authority. On the 4th March 1893 an application was made for a transfer of the license, and this application was opposed and refused also, and, the old tenant having left in November 1892, the house remained closed.	No appeal, and no application for renewal at the general annual licensing meeting.
Lonsdale Ward District - - - -	0	0	0		
West Ward District - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
WILTSHIRE :					
Bradford District - - - -	0	0	0		
Calne District - - - -	0	0	0		
Chippenham District - - -	0	0	0		
Cricklade District - - - -	0	0	0		
Devizes District - - - -	0	0	0		
Everley and Pewsey District -	0	0	0		
Malmesbury District - - -	0	0	0		
Marlborough and Hungerford District.	0	0	0		
Melksham District - - - -	0	0	0		
Salisbury and Amesbury District -	0	0	0		
Swindon District - - - -	0	0	0		
Tisbury and Mere District - -	0	0	0		
Trowbridge District - - - -	0	0	0		
Warminster District - - - -	0	0	0		
Westbury District - - - -	0	0	0		
Whorwellsdown District - - -	0	0	0		
WORCESTERSHIRE :					
Blockley District (Shipton Division).	0	0	0		
Blockley District (Chipping Campden Division).	0	0	0		
Bromsgrove District - - - -	0	0	0		
Droitwich District - - - -	0	0	0		
Evesham District - - - -	0	0	0		
Halesowen District - - - -	0	0	0		
Hundred House District - - -	0	0	0		
Kidderminster District - - -	0	0	0		
Malvern District - - - -	0	0	0		
Northfield District - - - -	0	0	0		
Oldbury District - - - -	0	0	0		
Pershore District - - - -	0	0	0		
Redditch District - - - -	0	0	0		
Stourbridge District - - - -	0	0	0		
Stourport District - - - -	0	0	0		
Tenbury District - - - -	0	0	0		
Upton-on-Severn District - - -	0	0	0		
Worcester District - - - -	1	1	2 Spirits, wine and beer, off. 1 Wine and beer, on or off.	(1.) The victualler's license was refused on the ground of the conviction of the licensee, and that the license was not required. (2.) The beerhouse certificate, that the licensee had failed to give satisfactory evidence of good character. (3, 4, 5.) The licensees having removed from the licensed premises, and no transfer of the licenses being obtained, the licenses were not required.	No appeal. Appeal dismissed. No appeal.

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND— <i>continued.</i>					
YORKSHIRE :					
EAST RIDING :					
Bainton Beacon District - -	0	0	0		
Buckrose District - - -	0	0	0		
Dickering District - - -	0	0	0		
Holderness, Middle, District -	0	0	0		
„ North, District -	0	0	0		
„ South, District -	0	0	0		
Holme Beacon District - - -	0	0	0		
Howdenshire District - - -	0	0	0		
Hunsley Beacon, North, District -	0	0	0		
„ South, District -	0	0	0		
Ouse and Derwent District (Escrick)	0	0	0		
Ouse and Derwent District (York Castle).	0	0	0		
Wilton Beacon District - -	0	0	0		
NORTH RIDING :					
Allertonshire District - - -	0	0	0		
Birdforth District - - -	0	0	0		
Bulmer, East, District - - -	0	0	0		
„ West, District - - -	0	0	0		
Gilling, East, District - - -	0	0	0		
„ West, District - - -	0	0	0		
Greta Bridge District - - -	0	0	0		
Hallikeld District - - -	0	0	0		
Hang, East, District - - -	0	0	0		
„ West, District - - -	0	0	0		
Langbaugh, East, District - -	0	0	0		
„ North, District -	0	0	0		
„ West, District - -	0	0	0		
Malton District - - -	0	0	0		
Pickering Lythe, East, District -	0	0	0		
„ West, District -	0	0	0		
Ryedale District - - -	0	0	0		
Whitby Strand District - - -	0	0	0		
Yarm District - - -	0	0	0		
WEST RIDING :					
Agbrigg, Lower, District - -	0	0	0		
„ Upper, District - -	1	0	0	On the ground that the holder of the license had been convicted twice for permitting betting on his licensed premises; The holder appealed against the refusal to renew. The license was afterwards re- newed to a new tenant under Section 14 of 9 Geo. 4, c. 61.	The appeal was dis- missed, with costs.
Ainsty, Eastern, District - -	0	0	0		
Barkston Ash, Lower, District -	0	0	0		
„ Upper, District -	0	0	0		
Bolton-by-Bowland District -	0	0	0		
Claro District - - -	0	0	0		
Dewsbury District - - -	0	0	0		
Eweross District - - -	0	0	0		
Keighley District (Bingley Divi- sion).	0	0	0		
Keighley District - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).	
ENGLAND—continued.						
YORKSHIRE—continued.						
WEST RIDING—continued.						
Kirkby Malzeard District - -	0	0	0	The owner of the house under- took to build a better house in another part of the township, and consented to the closing of the one already licensed.		
Morley, East, District - - -	0	0	0			
„ West, District - - -	0	0	0			
Osgoldcross, Lower, District -	0	0	0			
„ Upper, District - - -	0	0	0			
Otley District - - - -	0	0	0			
Saddleworth District - - -	0	0	0			
Skyrack District - - - -	1	0	0			
Staincliffe, East, District - -	0	0	0			
„ West, District - - -	0	0	0			
Staincross District - - -	0	0	0			
Strafforth, Lower, and Tickhill Dis- trict.	0	0	0			
Strafforth, Upper, and Tickhill Dis- trict (Rotherham Division).	0	0	0			
Strafforth, Upper, and Tickhill Dis- trict (Sheffield Division).	0	0	0			
Tadcaster District - - -	0	0	0			
Todmorden District - - -	0	0	0			
Wetherby District - - -	0	0	0			
LIBERTY OF RIPON - - -	0	0	0			
TOTAL for ENGLAND - -	50	29	13			
WALES:						
ANGLESEY:						
First District, at Menai Bridge and Llangefni.	2	0	0	Not required - - - -	One appealed; appeal dismissed.	
Second District, at Amlwch - -	0	0	0			
Second District, at Holyhead and Valley.	0	0	0			
Second District, at Llanerchymedd	1	0	0	Conviction during the year, and local party feeling.		
BRECONSHIRE:						
Brynmawr District - - -	0	0	0			
Builth District - - - -	0	0	0			
Crickhowell District - - -	0	0	0			
Devynnock District - - -	0	0	0			
Hay District - - - -	0	0	0			
Merthyr District - - - -	0	0	0			
Penderyn District - - -	0	0	0			
Penkelly District - - - -	0	0	0			
Talgarth District - - - -	0	0	0			
Ystradgunlais District - - -	0	0	0			
CARDIGANSHIRE:						
Geneurglyn, Lower, District - -	0	0	0			
„ Upper, District - - -	0	0	0			
Ilar, Lower, and Aberayron District	0	0	0			
Ilar, Upper, District - - -	0	0	0			

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>WALES—continued.</i>					
<i>CARDIGANSHIRE—continued.</i>					
Llandyssul District - - -	0	0	0		
Moyddin District - - -	0	0	0		
Penarth District - - -	0	0	0		
Penrhiwpal District - - -	0	0	0		
Troedyrfaur, Lower, District - -	0	0	0		
<i>CARMARTHENSHIRE:</i>					
Carmarthen District - - -	1	0	0	The house was not required -	No appeal.
Llanboidy District - - -	0	0	0		
Llandilo District - - -	0	0	0		
Llandovery District - - -	0	0	0		
Llandovery District (Llangadock Division).	0	0	0		
Llandovery District (Llansawell and Cayo Division).	0	0	0		
Llanelly District - - -	0	0	0		
Llanfihangel-ar-Arth District -	0	0	0		
Newcastle-Emlyn District - -	0	0	0		
Saint Clears District - - -	0	0	0		
<i>CARNARVONSHIRE:</i>					
Bangor District - - -	2	0	0	Not required - - -	No appeal.
Carnarvon District - - -	1	0	0	No application made for the re- newal, premises having been sold to a quarry company.	
Conway District - - -	1	0	0	Not required.	
Eifionydd District - - -	0	0	0	One alehouse licensee did not apply for a renewal.	
Nant Conway District - - -	0	0	0		
Pwllheli District - - -	0	0	0		
<i>DENBIGHSHIRE:</i>					
Bromfield District - - -	0	0	0		
Chirk, Upper, District - - -	0	0	0		
Isaled District - - -	0	0	0		
Isdulas District - - -	0	0	0		
Llangollen District - - -	0	0	0		
Ruabon District - - -	0	0	0		
Ruthin District - - -	0	0	0		
Uwchaled District - - -	0	0	0		
Uwchddulas District - - -	0	0	0		
<i>FLINTSHIRE:</i>					
Caerwys District - - -	0	0	0		
Hawarden District - - -	0	0	0		
Holywell District - - -	0	0	0		
Hope District - - -	0	0	0		
Mold District - - -	0	1	0	House badly conducted. License not required.	No appeal.
Northop District - - -	0	0	0		
Overton District - - -	0	0	0		
Prestatyn District - - -	0	0	0		
Rhuddlan District - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

COUNTIES—*continued.*

LICENSING DISTRICT.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).		
WALES—continued.							
GLAMORGANSHIRE :							
Caerphilly, Higher, District - -	0	0	0				
„ Lower, District - -	0	0	0				
Cowbridge District - - -	0	0	0				
Dynas Powis District - - -	0	0	0				
Gower District - - -	0	0	0				
Kibbor District - - -	0	0	0				
Miskin, Higher, District - -	0	0	0				
„ Lower (Pontypridd District)	0	0	0				
Neath District - - -	0	0	0				
Newcastle District - - -	0	0	0				
Pontardawe District - - -	0	0	0				
Swansea District - - -	0	0	0				
MERIONETHSHIRE :							
Ardudwy-is-artro District - -	0	0	0				
Ardudwy-uwch-Artro District -	0	0	0				
Edermion District - - -	0	0	0				
Estimaner District - - -	0	0	0				
Penllyn District - - -	0	0	0				
Talybont District - - -	0	0	0				
MONTGOMERYSHIRE :							
Cause District - - -	0	0	0				
Deythur District - - -	0	0	0				
Llanfyllin District - - -	0	0	0				
Llanidloes, Lower, District - -	0	0	0				
„ Upper, District - - -	0	0	0				
Machynlleth District - - -	0	0	0				
Mathrafal District - - -	0	0	0				
Montgomery, Lower, District -	0	0	0				
Newtown, Lower, District - -	0	0	0				
„ Upper, District - - -	0	0	0				
Pool, Upper, District - - -	0	0	0				
PEMBROKESHIRE :							
Castlemartin District - - -	0	0	0				
Cemmaes District - - -	0	0	0				
Dewsland District - - -	0	0	0				
Dungledy District - - -	0	0	0				
Kilgerran District - - -	0	0	0				
Narberth District - - -	0	0	0				
Roose District - - -	1	0	0	The licensee in this case had not taken out the Excise License for many years, and on his applying for the renewal of the license in 1893 it was refused by the justices as in their opinion the house was not required by the district, it having been closed for many years.	No appeal.		
RADNORSHIRE :							
Cefnlllys District - - -	0	0	0				
Colwyn District - - -	0	0	0				
Knighton District - - -	0	0	0				
Paincastle District - - -	0	0	0				
Presteign District - - -	0	0	0				
Radnor, New, District - - -	0	0	0				
Rhayader District - - -	0	0	0				
TOTAL for WALES - - -	9	1	0				

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

BOROUGH S.

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND:					
Abingdon - - - - -	0	0	0	(1.) That the applicant failed to produce satisfactory evidence of good character. (2.) That on the 5th July 1893, the applicant was fined 5 <i>l.</i> and costs and her license endorsed for suffering her licensed house to be used as a betting house, contrary to Section 17 of the Licensing Act, 1872. (3.) That on the 5th July 1893, the applicant was fined 2 <i>l.</i> and costs for permitting her licensed house to be used for betting purposes, contrary to the Statute 16 & 17 Vict. c. 119, ss. 1 and 3. (4.) That the applicant's licensed house is of a disorderly character, and is frequented by persons of bad character.	Dismissed with costs.
Accrington - - - - -	0	1 (1869 beer- house.)	0		
Andover - - - - -	0	0	0		
Arundel - - - - -	0	0	0		
Ashton-under-Lyne - - - - -	0	0	0	House not qualified, by reason of annual value being below 15 <i>l.</i> a year.	License granted.
Banbury - - - - -	0	0	0		
Barnstaple - - - - -	0	0	0		
Barrow-in-Furness - - - - -	0	0	0		
Basingstoke - - - - -	0	0	0		
Bath - - - - -	0	0	0		
Batley - - - - -	0	1	0		
Beccles - - - - -	0	0	0		
Bedford - - - - -	0	0	0		
Berwick-upon-Tweed - - - - -	0	0	0		
Beverley - - - - -	0	0	0		
Bewdley - - - - -	0	0	0		
Bideford - - - - -	0	0	0		
Birkenhead	1	0	1		
Birmingham - - - - -	5	4	0		
Bishops Castle - - - - -	0	1	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c. — *continued.*BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
Blackburn - - - - -	2	20	1 (Beer "off.")	(1.) One refused on the ground that the house was a disorderly house, frequented by pro- stitutes, thieves, &c, and that the renewal of the license was not necessary for the require- ments of the neighbourhood; and the other was refused on the ground that the renewal of the license was not necessary for the requirements of the neighbourhood. (2.) On the ground that they were not of the annual value required by law. (3.) On the ground that the license was not necessary for the requirements of the neigh- bourhood.	No appeal. Appeals in four cases; two licenses granted, two licenses refused. No appeal.
Blandford - - - - -	0	0	0		
Bodmin - - - - -	0	0	0		
Bolton - - - - -	0	0	0		
Bootle - - - - -	1	0	0	(1.) Two convictions in 1893, for permitting drunkenness, and selling intoxicating liquor to a drunken person. (2.) That the house was very badly conducted, and frequented by loose characters. (3.) That such house was not required in the neighbourhood, owing to a decrease of the population, and the number of other licensed houses within a quarter-mile radius.	Appeal against refusal to Lancashire County Sessions at Liverpool, 31st October 1893. Appeal dismissed with costs.
Boston - - - - -	1	0	0	(1.) That the house was of a dis- orderly character, and the habitual resort of prostitutes. (2.) That a conviction had been recorded for harbouring pro- stitutes. (3.) And that the license was not required.	Appeal to Quarter Ses- sions, when justices' refusal to grant re- newal of license was confirmed with costs.
Bradford - - - - -	0	0	5 (Beer "off.") 1 (lapsed.)	Not required - - - - -	Magistrate's decision upheld.
Brecon - - - - -	0	0	0		
Bridgnorth - - - - -	0	0	0		
Bridgwater - - - - -	0	0	0		
Bridport - - - - -	0	0	0		
Brighton - - - - -	0	0	0		
Bristol, City and County of - - -	2	3	2	(1.) House about to be pulled down; not required. (2.) Applicant failed to produce satisfactory evidence of good character. (3.) Licensee not duly qualified as by law required. (4.) (5.) Premises and licensee not duly qualified as by law required. (6.) Licensee not duly qualified as by law required. House not required. (7.) Licensee not duly qualified as by law required. Licensee failed to produce satisfactory evidence of good character. House not required.	Upon a case stated, the High Court remitted the application to be re-heard; the license was granted by justices.
Buckingham - - - - -	0	0	0		
Barnley - - - - -	0	0	0		
Burton-on-Trent - - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
ENGLAND—<i>continued.</i>					
Bury (Lancs.) - - - - -	0	0	0	Not applied for.	
Bury St. Edmunds - - - - -	0	0	0		
Cambridge - - - - -	1	1 "off."	0		
Canterbury - - - - -	0	0	0		
Carlisle - - - - -	2	0	0	(1.) Premises unfit, convictions, license not required. (2.) Premises unfit, license not required.	Appeal dismissed.
Calne - - - - -	0	0	0		Appeal abandoned.
Chard - - - - -	0	0	0	(1.) Premises having been for some time closed the justices refused the renewal on the ground that the license was not required. (2.) Not applied for on annual licensing day and not really required by applicant.	No appeal.
Chester - - - - -	1	0	1 sweets.		No appeal.
Chesterfield - - - - -	0	0	0		(1.) Grounds of refusal not stated by justices. (2.) Renewal not applied for.
Chichester, City of - - - - -	0	0	0		
Chippenham - - - - -	0	0	0		
Chipping Wycombe - - - - -	0	0	0		
Chipping Norton - - - - -	0	0	0		
Clitheroe - - - - -	0	0	0		
Colchester - - - - -	0	0	0		
Congleton - - - - -	0	0	0		
Coventry - - - - -	0	0	0		
Crewe - - - - -	10	2	0		
Croydon - - - - -	0	0	0		
Darlington - - - - -	0	0	0		
Dartmouth - - - - -	0	0	0		
Daventry - - - - -	0	0	0		
Deal - - - - -	0	0	0		
Derby - - - - -	0	0	0		
Devizes - - - - -	0	0	0		
Devonport - - - - -	0	0	0		
Dewsbury - - - - -	0	0	0		
Doncaster - - - - -	0	0	0		
Dorchester - - - - -	0	0	0		
Dover (including the Liberties of the Cinque Port of Dover).	0	0	0		
Droitwich - - - - -	0	0	0		
Dudley - - - - -	1	1	0	(1.) Convictions of applicant during the year. (2.) That applicant was not the real resident holder and occupier of the premises.	Justices' decision re- versed.
Dunstable - - - - -	0	0	0		
Durham - - - - -	0	0	0	(1.) That the licensed premises were not required for the accommodation of the public. (2.) That the licensed premises were conducted in a dis- orderly manner.	Refusal of justices re- versed and license re- newed.
East Retford - - - - -	0	0	0		
Evesham - - - - -	0	0	0		
Exeter - - - - -	0	0	0		
Eye - - - - -	0	0	0		
Falmouth - - - - -	0	0	0		
Faversham - - - - -	0	0	0		
Folkestone - - - - -	1	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
Gateshead - - - - -	0	0	0		
Glastonbury - - - - -	0	0	0		
Glossop - - - - -	0	0	0		
Gloucester, City of - - - - -	0	0	0		
Godalming - - - - -	0	0	0		
Godmanchester - - - - -	0	0	0		
Grantham - - - - -	0	0	0		
Gravesend - - - - -	0	0	0		
Grimsby - - - - -	0	0	0		
Guildford - - - - -	0	0	0		
Halifax - - - - -	0	0	0		
Hanley - - - - -	1	0	1 (Beer off pre- mises.)	(1.) Conviction of applicant, and endorsement of his license. (2.) License not required.	Appeal allowed, and license renewed to new tenant. Appeal allowed.
Harrogate - - - - -	0	0	0		
Hartlepool - - - - -	0	0	0		
Harwich - - - - -	0	0	0		
Hastings - - - - -	0	0	0		
Hedon - - - - -	0	0	0		
Helston - - - - -	0	0	0		
Henley-on-Thames - - - - -	0	0	0		
Hereford, City of - - - - -	0	0	0		
Hertford - - - - -	1	0	0	Not given - - - - -	No appeal.
Heywood - - - - -	0	1	0	The house was licensed prior to 1869. The justices refused the renewal on the ground of previous convictions against tenants, and also that the house was frequented by pros- titutes and bad characters.	Justices' decision upheld on appeal.
Higham Ferrers - - - - -	0	0	0		
Honiton - - - - -	0	0	0		
Huddersfield - - - - -	0	1	0	That the license was not required	License granted upon appeal by the Court of Quarter Sessions.
Huntingdon - - - - -	0	0	0		
Hyde - - - - -	0	0	0		
Hythe - - - - -	0	0	0		
Ipswich - - - - -	2	1	0	(1.) That the house was in a dilapidated condition and unfit for the purposes of a beerhouse, that the tenant had been con- victed of offences against the Licensing Acts, and that the license was not required. (2.) That the house was not structurally adapted for the purposes of an inn. (3.) That the license was not required, and that the tenant had been convicted of offences against the Licensing Acts.	No appeal. No appeal. No appeal.
Jarrow - - - - -	0	0	0		
Kendal - - - - -	0	0	0		
Kidderminster - - - - -	0	0	0		
King's Lynn - - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
Kingston-upon-Hull - - - -	4	0	0	(1.) Conviction of licensee under Intoxicating Liquor Licensing Acts. General bad management. Not required by the character and necessities of the neighbourhood. (2.) General bad management. Not required by the character and necessities of the neighbourhood. (3.) General bad management. Not required by the character and necessities of the neighbourhood, and prior licensee convicted under Intoxicating Liquor Licensing Acts, and license endorsed.	Decision of Borough Justices upheld on appeal at Michaelmas County Quarter Sessions. Decision of Borough Justices reversed at Michaelmas County Quarter Sessions. No appeal.
Kingston-on-Thames - - - -	0	0	0		
Lancaster - - - - -	0	0	0		
Launceston - - - - -	0	0	0		
Leamington - - - - -	0	0	0		
Leeds, City of - - - - -	1	0	0	A conviction recorded on the license. House conducted in an unsatisfactory manner, thieves and prostitutes being allowed to assemble therein; and no public necessity for the license.	Dismissed with costs.
Leicester - - - - -	1	3 Beer off licences.	0	(1.) Permitting drunkenness, and not required by the inhabitants of the neighbourhood. (2.) Not required by the inhabitants of the neighbourhood.	Renewed on appeal to County Quarter Sessions. No appeal.
Leominster - - - - -	0	0	0		
Lichfield, City of - - - -	0	0	0		
Lincoln, City of - - - - -	0	0	0		
Liskeard - - - - -	0	0	0		
Liverpool - - - - -	21	6	6	<i>Licensed Victuallers:</i> (1.) No applications (9) - - (2.) Licenses returned, not required (3). (3.) Police objections; houses closed, license not required (3). (4.) Police objection; license not required; tenant also having been convicted of keeping a brothel at another place (1). (5.) Police objections; houses badly conducted, &c.; licenses not required (5). <i>Beerhouse Licenses:</i> (6.) House closed; police objection; license not required (1). (7.) No applications (5). <i>Other Licenses:</i> (8.) No applications (6). House closed for sale of intoxicating liquors	Four victuallers appealed; two being allowed, and two being refused.
Longton - - - - -	0	1	0		No appeal.
Lostwithiel - - - - -	0	0	0		
Louth - - - - -	0	0	0		
Lowestoft - - - - -	0	0	0		
Ludlow - - - - -	0	0	0		
Luton - - - - -	0	0	0		
Lydd - - - - -	0	0	0		
Lyme Regis - - - - -	0	0	0		
Lyminster - - - - -	0	0	0		
Macclesfield - - - - -	0	0	0		
Maidenhead - - - - -	0	0	0		
Maidstone - - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*

BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
Maldon - - - - -	0	0	0		
Manchester, City of - - - - -	7	42	3	Character. Houses taken down or closed.	Eight appeals allowed out of 17.
Margate - - - - -	1	0	0	The license was refused by the justices on the ground that it was not required. The house was only kept open for a limited period before and after the annual licensing meeting, and generally closed for a considerable part of the year.	There was no appeal against the decision of the justices.
Marlborough - - - - -	0	0	0		
Middlesbrough - - - - -	1	0	0	House unnecessary; unfit for the purpose; unsafe.	Appeal dismissed with costs.
Middleton - - - - -	0	0	0		
Monmouth - - - - -	0	0	0		
Morley - - - - -	0	0	0		
Morpeth - - - - -	0	0	0		
Mossley - - - - -	0	0	0		
Neath - - - - -	0	0	0		
Nelson - - - - -	0	0	0		
Newark - - - - -	0	0	0		
Newbury - - - - -	0	0	0		
Newcastle-under-Lyme - - - - -	0	1	0	House not used as a beerhouse for a number of years.	No appeal.
				<i>Victuallers' Licenses :</i>	
				(1.) Conviction against tenor of license; house frequented by prostitutes and persons of bad character. Premises not structurally fit for licensed premises, in an insanitary state, do not admit of efficient police supervision, and license not required in the district.	No appeal.
				(2.) Two convictions against tenor of license; license indorsed; and not required in district.	- ditto.
				(3.) Not carrying on the business of a licensed victualler. Premises pulled down, and license not required in district.	- ditto.
				<i>Beerhouse Licenses :</i>	
				(1.) Convictions against previous tenant for selling spirits without license, and present tenant not real resident holder and occupier of premises.	- ditto.
				(2.) Tenant not real resident holder and occupier of premises; premises not duly qualified as by law required, not structurally fit for licensed premises, and in an insanitary condition.	- ditto.
				(3.) Two convictions against tenor of license, one indorsed. Licensed premises a source of drunkenness and disorder in neighbourhood; frequented by prostitutes and persons of bad character.	- ditto.
				(4.) Two convictions against tenor of license, one indorsed; also two convictions in 1890. Premises frequented by betting men, and tenant not real resident holder and occupier of premises.	- ditto.
Newcastle-upon-Tyne, City and County of.*	4	4	0		

* The clerk to the justices remarks that the various objections to the renewal are in each case set out, and it will be observed that in no instance did the alleged fact of the house not being required form the sole objection. Justices are under no obligation to state the grounds of their refusal to renew victuallers' licenses, and it must not be inferred that these licenses were refused simply on the ground that they were not required.

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued*.

BOROUGH—*continued*.

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
Newport (Isle of Wight) - - -	0	0	0		
Newport (Monmouthshire) - - -	0	0	0		
Northampton - - - - -	0	1 outdoor.	0	License not required - -	No appeal.
Norwich, City and County of - -	8	1	0	Licenses not required.	
Nottingham - - - - -	0	0	0		
Oldham - - - - -	0	0	0		
Ossett - - - - -	0	0	0		
Oswestry - - - - -	0	0	0		
Over Darwen - - - - -	0	0	0		
Oxford, City of - - - - -	0	0	0		
Penryn - - - - -	0	0	0		
Penzance - - - - -	0	1	0	License holder not being real resident occupier.	
Plymouth - - - - -	1	0	0	House unfit for human habita- tion in consequence of defect- ive sanitary arrangements, and no necessity for it.	Appeal dismissed.
Pontefract - - - - -	0	0	0		
Poole - - - - -	0	0	0		
Portsmouth - - - - -	0	0	0		
Preston - - - - -	0	1	0	That applicant failed to produce satisfactory evidence of good character; that the house in respect of which the license was sought was of a disorderly character.	No appeal.
Queenborough - - - - -	0	0	0		
Ramsgate - - - - -	0	0	0		
Reading - - - - -	3	0	0	(1.) No application for renewal (2.) Disorderly character of pre- mises. (3.) Conviction of licensed holder of offence against Licensing Acts.	Renewed on appeal.
Reigate - - - - -	0	0	0		
Richmond (Surrey) - - - - -	0	0	0		
Richmond (Yorkshire) - - - - -	0	0	0		
Ripon, City of - - - - -	0	0	0		
Rochdale - - - - -	0	0	0		
Rochester, City of - - - - -	0	0	0		
Romney, New - - - - -	0	0	0		
Romsey - - - - -	0	0	0		
Rotherham - - - - -	0	0	0		
Ryde - - - - -	0	0	0		
Rye - - - - -	0	0	0		
Saffron Walden - - - - -	0	0	0		
St. Albans, City of - - - - -	0	0	0		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c—*continued.*

BOROUGH—*continued.*

BOROUGH.	Number of Victuallers Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
St. Helens - - - - -	0	2	1	(1.) On the ground that the tenant was convicted of opening his house for sale of intoxicating liquors during prohibited hours. (2.) - - - ditto - - - (3.) On the ground that the licensed premises had not for some years past been used for the sale of spirits.	License granted on appeal at Liverpool County Quarter Sessions. Notice of appeal given, but afterwards abandoned.
St. Ives (Cornwall) - - - - -	0	0	0		
St. Ives (Hunts) - - - - -	0	0	0		
Salford - - - - -	1	5	2	(1.) Refused on the ground that the license was not required. (2.) The renewals of four of these licenses were refused because no applications for renewals were made. (3.) One was refused on the ground that the house was of a disorderly character. (4.) The renewals of these licenses were not applied for.	Appeal dismissed. Appeal allowed.
Saltash - - - - -	0	0	0		
Sandwich - - - - -	0	0	0		
Sarum, New, City of - - - - -	0	0	0		
Scarborough - - - - -	0	0	0		
Shaftesbury - - - - -	0	1	0	That the house, "The New Inn," had not been used by the owner for some years as a beerhouse.	
Sheffield, City of - - - - -	1	0	0	Disorderly character of the house, and license not required.	No appeal.
Shrewsbury - - - - -	1	*	0	That the house was of a disorderly character, not conducted in a proper manner, and not required in the district.	Appeal withdrawn.
Southampton - - - - -	1	0	0	License not required in one locality and neighbourhood.	Appeal dismissed, with costs.
South Molton - - - - -	0	0	0		
Southport - - - - -	0	0	0		
South Shields - - - - -	0	0	0		
Southwold - - - - -	0	0	0		
Stafford - - - - -	0	0	0		
Stalybridge - - - - -	0	0	0		
Stamford - - - - -	0	0	0		
Stockport - - - - -	0	0	0		
Stockton-on-Tees - - - - -	0	0	0		
Stratford-upon-Avon - - - - -	0	0	0		
Sudbury - - - - -	0	0	0	(1.) License unnecessary; premises unfit.	Justices' decision appealed against; the appeal was dismissed, and the decision of the justices upheld.
Sunderland - - - - -	1	0	0		
Sutton Coldfield - - - - -	0	0	0		

* Several beerhouse licenses would no doubt have been refused, but power of Justices so limited owing to licenses being prior to 1869.

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*BOROUGH—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not Required.	Result of Appeal (if any).
<i>ENGLAND—continued.</i>					
Tamworth - - - - -	0	0	0		
Tenterden - - - - -	0	0	0		
Tewkesbury - - - - -	0	0	0		
Thetford - - - - -	0	0	0		
Tiverton - - - - -	0	0	0		
Torquay - - - - -	0	0	0		
Torrington, Great - - - - -	0	0	0		
Totnes - - - - -	0	0	0		
Truro, City of - - - - -	0	0	0		
Tunbridge Wells - - - - -	0	0	0		
Tynemouth - - - - -	0	0	0		
Wakefield, City of - - - - -	0	0	0		
Wallingford - - - - -	0	0	0		
Walsall - - - - -	1	0	0	conviction for permitting drunkenness. House of a disorderly character. License not required.	Appeal allowed, with costs.
Warrington - - - - -	0	0	0		
Warwick - - - - -	0	0	0		
Wednesbury - - - - -	0	0	0		
Wells - - - - -	0	0	0		
Wenlock - - - - -	0	0	0		
West Bromwich - - - - -	0	0	0		
West Ham - - - - -	0	0	1 Beer, "off."	(1.) Conviction of licensee for breach of licensing laws. (2.) That house not conducted in a proper manner. (3.) That it was so situated as to prevent the proper supervision thereof by the police. (4.) That sale and consumption of intoxicating liquor had been improperly permitted on premises adjoining house.	Appeal allowed, and license renewed.
West Hartlepool - - - - -	0	0	0		
Weymouth and Melcombe Regis - - - - -	0	0	0		
Wigan - - - - -	0	1	0	That the house was of a disorderly character, and frequented by prostitutes.	No appeal.
Winchester - - - - -	0	0	0		
Windsor, New - - - - -	0	0	0		
Wisbech - - - - -	0	0	0		
Wolverhampton - - - - -	0	0	0		
Worcester - - - - -	0	0	0		
Yarmouth, Great - - - - -	0	0	0		
Yeovil - - - - -	0	0	0		
York, City of - - - - -	0	0	0		
TOTAL FOR ENGLAND -	90	107	25		

Number of Victuallers', Beerhouse, and other Licenses for the Sale of Intoxicating Liquors, &c.—*continued.*BOROUGHES—*continued.*

BOROUGH.	Number of Victuallers' Licenses.	Number of Beerhouse Licenses.	Number of other Licenses.	Ground of Refusal, especially when such Ground was, in any instance, that the License was not required.	Result of Appeal (if any).
WALES:					
Aberavon - - - - -	0	0	0		
Aberystwith - - - - -	0	0	0		
Beaumaris - - - - -	0	0	0		
Cardiff - - - - -	0	0	0		
Cardigan - - - - -	0	0	0		
Carmarthen - - - - -	0	0	0		
Carnarvon - - - - -	0	0	0		
Denbigh - - - - -	1	0	0	License not required - - -	Appeal dismissed.
Flint - - - - -	0	0	0		
Haverfordwest - - - - -	0	0	0		
Kidwelly - - - - -	0	0	0		
Llandovery - - - - -	0	0	0		
Llanfyllin - - - - -	0	0	0		
Llandidoes - - - - -	0	0	0		
Montgomery - - - - -	0	0	0		
Pembroke - - - - -	7	0	0	Houses not having been opened for sale of intoxicating liquors for 12 months.	
Pwllheli - - - - -	0	0	0		
Ruthin - - - - -	0	0	0		
Swansea - - - - -	1	0	0	House taken down, and application to remove license to another part of town refused.	
Tenby - - - - -	0	0	0		
Welshpool - - - - -	0	0	0		
Wrexham - - - - -	0	0	0		
TOTAL FOR WALES - - -	9	0	0		

SUMMARY.

	Number of Victuallers' Licenses refused in 1893.	Number of Beerhouse Licenses refused in 1893.	Number of other Licenses refused in 1893.
COUNTIES, ENGLAND - - - - -	50	29	13
„ WALES - - - - -	9	1	—
TOTAL, COUNTIES - - - - -	59	30	13
BOROUGHES, ENGLAND - - - - -	90	107	25
„ WALES - - - - -	9	—	—
TOTAL, BOROUGHES - - - - -	99	107	25
GRAND TOTAL, ENGLAND AND WALES - - -	158	137	38

INTOXICATING LIQUORS (LICENCES
REFUSED).

RETURN of the Number of VICTUALLERS', BEER-HOUSE, and other LICENSES for the Sale of INTOXICATING LIQUORS, the Renewal of which has been Refused, in the Year 1893, by the JUSTICES OF THE PEACE in each LICENSING DISTRICT in *England* and *Wales*, showing in each case the Ground of such Refusal, especially when such Ground was, in any instance, that the License was not Required; and showing also the Result of Appeal, if any (in continuation of Parliamentary Paper, No. 306, of Session 1893).

(*Mr. John Ellis.*)

*Ordered, by The House of Commons, to be Printed,
8 June 1894.*

[*Price 3½d.*]

FOREIGN MERCHANT NAVIES (EDUCATIONAL STANDARD
OF OFFICERS).

RETURN to an Order of the Honourable The House of Commons,
dated 23 August 1894;—for,

RETURN “showing the Educational Standard required from Candidates for
Positions as Masters, Mates, and Engineers in the Merchant Navies of
France, Germany, Russia, Belgium, Holland, Sweden and Norway, the
United States, and the United Kingdom.”

PART I.—UNITED KINGDOM.

Board of Trade, }
23 August 1894. }

COURTENAY BOYLE.

(*Major Jones.*)

Ordered, by The House of Commons, to be Printed,
24 August 1894.

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NOTE.—*The Educational Standard required from Candidates for positions as Masters, Mates, and Engineers in Foreign Merchant Navies will be found in Parliamentary Paper (C. 7711).*

I.

REGULATIONS relating to the Examination of Candidates for Certificates of Competency as Masters and Mates in the Mercantile Marine.*

Preliminary and General.

1. UNDER the provisions of "The Merchant Shipping Act, 1854," no "Foreign-going Ship"† or "Home Trade Passenger Ship"† can obtain a clearance or transire, or legally proceed to sea, from any port in the United Kingdom, unless the master thereof, and in the case of a foreign-going ship, the first and second mates or only mate (as the case may be), and in the case of a "Home Trade Passenger Ship" the first or only mate (as the case may be), have obtained and possess valid certificates, either of competency or service, appropriate to their several stations in such ship, or of a higher grade; and no such ship, if of *100 tons burden or upwards*, can legally proceed to sea unless at least one officer besides the master has obtained and possesses a valid certificate, appropriate to the grade of only mate therein, or to a higher grade; and every person who having been engaged to serve as master, or as first or second or only mate of any "Foreign-going Ship," or as master or first or only mate of a "Home Trade Passenger Ship," goes to sea as such master or mate without being at the time entitled to and possessed of such a certificate as the Act requires, or who employs any person as master, or first, second, or only mate of any "Foreign-going Ship," or as master or first or only mate of any "Home Trade Passenger Ship," without ascertaining that he is at the time entitled to and possessed of such certificate, *for each offence incurs a penalty not exceeding 50l.*

Masters and mates must have certificates.
17 & 18 Vict.
c. 104, ss. 136 and 161.

2. Every certificate of competency for a "Foreign-going Ship" is to be deemed to be of a higher grade than the corresponding certificate for a "Home Trade Passenger Ship," and entitles the lawful holder to go to sea in the corresponding grade in such last-mentioned ship; but no certificate for a "Home Trade Passenger Ship" entitles the holder to go to sea as master or mate of a "Foreign-going Ship," nor does a certificate of service entitle the possessor to act in a vessel of any class except that for which it is granted.

Foreign-going certificates superior to home trade passenger ship certificates, s. 137.

3. Certificates of competency will be granted to those persons who pass the requisite examinations, and otherwise comply with the requisite conditions. For this purpose examiners have been appointed, and arrangements have been made for holding examinations at the ports and upon the days mentioned in Appendix A.

Certificates granted to persons who pass examinations, s. 134.

4. The examinations will commence early in the forenoon, and will be continued from day to day until all the candidates whose names appear upon the Superintendent's list on the day of examination are examined.

Examinations continued till all the candidates are examined.

5. Candidates

* The requirement, contained in paragraphs 59, 62, and 84, that officers' service must be performed with the requisite certificate, will be strictly enforced on and after the 1st January 1896. The special attention of candidates, Examiners and Superintendents, is called to paragraphs 5, 6, and 7 of these regulations.

† By a "Foreign-going Ship" is meant one which is bound to some place out of the United Kingdom beyond the limits included between the River Elbe and Brest; and by a "Home Trade Passenger Ship" is meant any home trade ship employed in carrying passengers; and it is to be observed that foreign steam ships when employed in carrying passengers between places in the United Kingdom are subject to all the provisions of the Act, as regards certificates of masters, mates, and engineers, to which British steam ships are subject: Section 291 of the Merchant Shipping Act, 1854, and Section 5 of the Merchant Shipping Act Amendment Act, 1862.

Notice of application for examination to be given to superintendent or Local Marine Board.

5. Candidates for examination must make their application upon the appropriate form (Exn. 2) which must be filled up at a Mercantile Marine Office. The Exn. 2, properly filled in, together with the candidate's testimonials and discharges, must be lodged with the Local Marine Board if there is a Local Marine Board at the port, and if there is not, with the Superintendent of the Mercantile Marine Office, not later than the day before the day of examination (except in the case of London* and Liverpool), and the candidate must conform to any regulations in this respect which may be laid down by the Local Marine Board or the Board of Trade. Candidates' discharges and testimonials may have to be forwarded to the Registrar General of Seamen for verification, and it is therefore desirable that they should be handed in, together with the Form Exn. 2, as many days as possible before the date of the examination which the candidate desires to attend, as in the absence of the necessary verification the candidate cannot be examined.

Sea service not strictly in accordance with the Regulations.

6. In cases where a candidate is in doubt whether his sea service complies with the Regulations, and he wishes to submit his case for special consideration, all certificates, discharges, testimonials, &c., together with the form Exn. 2 (which can be obtained at any Mercantile Marine Office) properly filled in, and a concise statement of the irregularity, should be sent to the Secretary, Local Marine Board, or where there is no Local Marine Board to the Superintendent, Mercantile Marine Office, or to the Examiner of Masters and Mates. If necessary, the officer will, after seeing that all the required information is clearly set forth in the papers and making his remarks thereon, forward them to the Registrar General of Seamen, who will either deal with the case or transmit it to the Board of Trade for decision.

Inquiries regarding examinations.

7. All other inquiries regarding examinations should be made and dealt with in the same way. The point on which information is sought should be clearly stated, and certificates, discharges, testimonials, &c., should be forwarded when they are material to the inquiry.

Foreigners to know English.

8. Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board a British vessel (*see also paragraphs 21 and 130*).

Certificates as to age.

9. Should any doubt exist as to the age of a candidate, he will be required to produce a certificate of birth.

Inaccurate statements of service.

10. It is provided by the Merchant Shipping Act, 1854 (Section 140), that every person who makes, or procures to be made, or assists in making, any false representation for the purpose of obtaining for himself or for any other person a certificate of competency, shall for each offence be deemed guilty of a misdemeanour, the punishment for which is imprisonment for any period not exceeding six months, with or without hard labour, or a penalty not exceeding 100*l*. These provisions will be strictly enforced by the Board of Trade, and any candidate for a certificate of competency as master, or as first, or second, or only mate, in the Merchant Service, who shall, knowingly and fraudulently, for the purpose of obtaining any such certificate, present to the Examiner any "application to be examined for a certificate of competency" (Exn. 2), or statutory declaration containing any false or inaccurate statement of service, and any person who shall knowingly and fraudulently make or prepare, or assist in making or preparing any such false or inaccurate statement will be *prosecuted*.

Form Exn. 16, completion of examination.

11. If the candidate passes he will receive the form Exn. 16, which authorises the Superintendent of the Mercantile Marine Office to whom it is addressed by the Examiner to issue the certificate to the candidate, whose testimonials, &c., will be returned at the same time. It is therefore important that the port of destination of the certificate should be the same on both the form Exn. 16 and the form Exn. 2. If circumstances should make any alteration necessary, the Examiner should see that it is made in both forms, otherwise delay in the issue of the certificate may be caused.

12. If

* At London applications for examination must be made on Fridays from 10 till 4, or on Saturdays from 10 till 2.

At Liverpool applications for examination must be made on Fridays or Saturdays during office hours.

12. If, after a candidate has passed his examination, it is discovered on further investigation, *e.g.*, by verification on the part of the Registrar General of Seamen, that his services are insufficient to entitle him to receive a certificate of the grade for which he has passed, such certificate will not be granted to him; but if the Board of Trade are satisfied that the error in the calculation of the candidate's services did not occur through any fault or wilful misrepresentation on his part, he may be granted a certificate of such lower grade as his service entitles him to. The difference, if any, between the fee paid by him for the superior certificate and the fee payable for the inferior certificate will be placed to his credit. A certificate for the higher grade will not be granted until the candidate has performed the amount of service in which he was deficient, and has been re-examined in all the subjects.

If, after passing examination, services are found to have been insufficient.

Suspension or Cancellation of Certificates.

13. Certificates are liable to suspension or cancellation :—

(1.) On an investigation ordered by the Board of Trade under Section 241 of the Merchant Shipping Act, 1854, into the incompetency or misconduct of the possessors.

(2.) By courts of inquiry into shipping casualties under the eighth part of the Merchant Shipping Act, 1854, and under the Merchant Shipping Act, 1876.

(3.) By the Board of Trade, under Section 242, Sub-section 4, of the Merchant Shipping Act, 1854, upon conviction for any offence.

14. No certificate which has been cancelled will be re-issued or renewed without the express sanction of the Board of Trade.

Regulations as regards Sea Service and other Qualifications for Examination.

15. For foreign-going certificates the term "sea service" means, unless "Sea service." otherwise stated, service performed in foreign-going vessels.

16. For home trade passenger ship certificates service in the home or coasting trade is regarded as equivalent to service in the foreign trade; but for foreign-going certificates it is regarded as only equivalent to two-thirds of the same time served in the foreign trade.

Service in home or coasting trade.

17. *Certificate.*—By "certificate" is meant a certificate granted by the Board of Trade under the Merchant Shipping Acts, or by the Government of a British Possession under an Order in Council issued in pursuance of the Merchant Shipping (Colonial) Act, 1869.

"Certificate."

18. Officer's service, to be recognised as such, must be performed with the requisite certificate as specified in paragraphs 59, 62, and 84, and in Appendix S. The officer's service performed by men who have been duly promoted during the course of a voyage (*see* paragraph 24), or who, in consequence of serving in vessels plying between ports abroad, have been unable to obtain the necessary certificate, may, however, be recognised, provided that it is in other respects satisfactory.

Officer's service.

19. Testimonials to character, and to sobriety, experience, ability, and good conduct on board ship for at least the twelve months of service immediately preceding the date of application to be examined, will be required of all applicants, and without producing them no person will be examined.

Testimonials to character, conduct, and ability required, s. 134.

20. Candidates who have neglected to join their vessels after having signed articles, or who have deserted their vessels after having joined, or who have been found guilty of gross misconduct on board, will be required to produce satisfactory proofs of two years' subsequent service and good conduct at sea, unless the Board of Trade, after having investigated the matter, should see fit to reduce the time.

Desertion and gross misconduct.

21. The testimonials of service of foreigners, and of British officers and seamen serving in foreign vessels, which cannot be verified by the Registrar General of Seamen, must be confirmed either by the Consul of the country to

Service in foreign vessels.

which the ship in which the candidate served belonged, or by some other recognised official authority of that country, or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case will be decided on its own merits, and if the sufficiency of the proofs given appears to be at all doubtful it must be referred to the Registrar General of Seamen, who will, if necessary, transmit it to the Board of Trade for decision.

Verification of services.

22. The time for which length of service as seaman or officer in the mercantile marine is to be reckoned in all cases referred to in the following paragraphs is from the commencement to the termination of the voyage. The certificates of discharge for service in the foreign trade will be generally accepted as proof of such service, but certificates of discharge for service in the home or coasting trade must always be sent to the Registrar General of Seamen for verification. Great care must be exercised by the Superintendents and Examiners so as to detect any tampering with the information contained in these discharges; any suspicious case must be reported at once to the Registrar General of Seamen. If a candidate has apparently sufficient service to qualify him for examination for a certificate of competency, but some part of such service requires verification, he should fill up the form (Exn. 2) of application to be examined, pay the examination fee, and forward the form, together with all his discharges and testimonials, to the Registrar General of Seamen, who will then make any necessary verification without further charge.

Verification of services by articles.

23. Services which cannot be verified by proper entries in the articles of the ships in which the candidates have served cannot be counted. For instance, a man will state his service to have been as second or only mate, and to support his assertion will produce a certificate of discharge or of employment by the master, to the effect that he served as mate, when, on reference to the articles, it appears that he has actually been rated as boatswain; the service in such a case will not be regarded as having been in the capacity of mate.

Promotion during voyage.

24. Whenever a man has, from any cause, been regularly promoted, on the occurrence of a vacancy in the course of the voyage, from the rank in which he first shipped, and such promotion, with the ground on which it has been made, is properly entered in the articles and the official log book, he will receive credit for his service in the higher grade for the period subsequent to his promotion.

Service in trawlers, &c.

25. Service performed exclusively in trawlers and other deep-sea fishing vessels will not qualify a candidate for examination. He must, in addition, prove the following service:—

- (1.) For a *foreign-going certificate*, service for at least 18 months in an ordinary trading vessel in the foreign trade, or the equivalent period (27 months) in the home or coasting trade.
- (2.) For a *home trade passenger ship certificate*, service for at least 12 months in an ordinary trading vessel in the foreign, home, or coasting trade.

Service in pleasure yachts.

26. Service in pleasure yachts will be accepted as qualifying service under the following conditions:—

- (a) Service in pleasure yachts must in all cases be verified by satisfactory proofs, which must set forth clearly and in detail the nature and duration of the service claimed; and it must be distinctly understood that only actual sea service will be accepted, service in harbour or port being inadmissible.
- (b) Service in foreign-going yachts will be accepted in full; and service performed within home trade limits in sailing yachts of not less than 50 tons net register, or in steam yachts of not less than 80 tons gross register, will be accepted in the proportion stated in paragraph 16; but candidates must also show: (1) for a *foreign-going certificate*, service for at least 18 months in an ordinary trading vessel in the foreign trade, or for the equivalent period (27 months) in an ordinary trading vessel in the home or coasting trade; (2) for a *home trade passenger ship certificate*, service for at least 12 months in an ordinary trading vessel in the foreign, home, or coasting trade.

(c) Service

(c) Service within home trade limits in sailing yachts of under 50 tons, and not less than 20 tons net register, or in steam yachts of under 80 tons and not less than 40 tons gross register, will be accepted towards qualifying a candidate for a foreign-going certificate, as equivalent to half the same time served in the foreign trade, but no amount of such service shall count as more than two years' service in the foreign trade, and no such service shall count as officers' service to qualify candidates for foreign-going certificates.

(d) Service within home trade limits in sailing yachts of not less than 20 tons net register, or in steam yachts of not less than 40 tons gross register, will be accepted at the ordinary rate as qualifying service for home trade passenger ship certificates, but candidates must prove that they have, in addition, served for at least 12 months in an ordinary trading vessel in the foreign, home, or coasting trade.

(e) Service within home trade limits in sailing yachts of less than 20 tons net register, or in steam yachts of less than 40 tons gross register, will not be accepted as qualifying service for any class of certificate.

27. Service performed in tug boats employed in channel service or outside partially smooth water limits (*see* Appendix R.) may be accepted as sea service for qualifying for a mate's or master's certificate for home trade passenger ships.

Service in tug boats.

28. Service in steam hopper barges may (subject to paragraph 30) be allowed to count towards qualifying a candidate for a mate's certificate of competency for home trade passenger ships, provided he can prove at least two years' service in an ordinary trading vessel in either the home, coasting, or foreign trade. Service in these steam hoppers will not be accepted as officer's service towards qualifying a candidate for a master's certificate.

Service in steam hopper barges.

29. Service in light-ships or in an engine-room will not be accepted as sea service.

Service in light-ships and engine-room.

30. Service performed on rivers, no matter of what size, and service performed within smooth or partially smooth water limits (*see* Appendix R.), will not be accepted.

Service on rivers and in smooth waters.

Where any doubt whatever exists on this point the candidate must be required to produce a certificate from the master or owner of the vessel in which the service was performed before the service can be accepted.

31. In the case of service on board excursion steamers only such service as can be proved to have been performed actually at sea can be accepted.

Service in excursion steamers.

32. Service in auxiliary screw whaling ships and other vessels with auxiliary steam power, which use their screws only in calms or during light winds, is considered as service performed in sailing vessels.

Service in auxiliary screw whaling ships.

33. Service in a lower grade than first or only mate in the home or coasting trade will not be recognised as officer's service towards qualifying a candidate for examination for a foreign trade certificate.

Only mate, home, or coasting trade.

34. Service as additional or auxiliary first mate, or as auxiliary second mate (*when a third mate is carried*), in large foreign-going vessels will count as first mate or second mate's service, as the case may be, provided that the candidate was entered on the articles in one of these capacities, and that he was, during the whole time claimed, *in charge of watch or watches*.

Auxiliary mates.

35. When service "in charge of a watch," in either the foreign or home trade, is specified in the regulations, the candidate will have to prove that during the whole of the time claimed he had the regular charge of a watch or watches, which, if in the foreign trade, must amount to not less than 8 hours of each 24 hours of service. It must be distinctly understood that occasional service in charge of a watch will not be accepted as mate's service under the Regulations.

Service "in charge of a watch."

Great care must be exercised by the Examiners, &c. in regard to such service, and unless the candidate produces a clear and satisfactory certificate, specially setting forth the above facts, from the master or owner of the vessel in which the service was performed, it must not be accepted.

Pilot.

36. The term "Pilot" in these Regulations (*see* paragraphs 59 and 84, and Appendix S.) means a pilot who is employed in general pilotage, and holds a first-class pilot's certificate from some competent authority authorising him to pilot vessels outside harbour and partially smooth water limits.

Service in capacities other than as apprentice, midshipman, or seaman.

37. Candidates whose services have been in capacities other than apprentice, midshipman, ordinary seaman, or able seaman, *e.g.*, cook (when it is performed in small vessels, where cooking is only a part of a man's duty), carpenter, or sailmaker, will be required to satisfy a Local Marine Board or the Board of Trade that they have during the whole time claimed performed deck duties in addition to their own particular work, and that they have a good knowledge of seamanship. These facts may possibly be proved by the production of satisfactory certificates from the masters with whom the applicant has served; but such service will only be accepted as equivalent to two-thirds of the same time served as ordinary deck hand. Failing satisfactory evidence, the applicant will be required to perform additional service in the capacity of seaman. Service as cook (under other conditions than the above), or as steward, will not be accepted.

Service on board a training ship.

38. Half the time served on board a training ship will be allowed to count as service at sea up to a limit of one year (*i.e.*, no length of service will be allowed to count as more than one year at sea), provided that the candidate can produce a certificate from the committee that he has conducted himself creditably, and passed a good examination in seamanship, so far as it is practised in the training ship, as well as in other matters down to the time of his leaving the ship; but this service will not be regarded as equivalent to service in square-rigged vessels.

Apprentices.

39. The *whole* of the time served under indentures of apprenticeship (unless the same are cancelled through some fault of the candidate) will be accepted as actual sea service under the Regulations, provided that the applicant has served at sea four-fifths of the time claimed as apprentice (*i.e.*, that he has not spent more than one-fifth of the time claimed in home ports), and provided also that his indentures are endorsed by the owner or master to whom he has been bound, to the effect that he has performed his service faithfully during the time he remained apprentice. In cases where an apprentice may be qualified for examination before the expiration of his indentures (or for any other satisfactory reason) a letter from the owner or master will be accepted in place of this endorsement.

In the event of the candidate being short of the required four-fifths of his apprentice's time out of the United Kingdom, he will be required to show sufficient additional sea service, either as seaman or junior officer, to make up the four-fifths of the time claimed as apprentice.

Midshipmen in the mercantile marine.

40. The *whole* of the time served as midshipman in the mercantile marine will be accepted, subject to the same conditions as those laid down for apprentices, provided the candidate has been bound by indentures during the time claimed as midshipman, but not otherwise.

Apprentice in Trinity House vessels.

41. Five years' completed service as apprentice in a Trinity House steam vessel will be allowed to count as three years' service at sea towards qualifying a candidate to be examined for a second mate's certificate for foreign-going steamships, and the remaining twelve months' service required by the Regulations must be performed in a foreign-going trading vessel, either steam or sailing; or, seven years' completed service in a Trinity House steam vessel will be allowed to count as three and a half years at sea, while the remaining six months must be performed in a foreign-going trading vessel, either steam or sailing.

Five or more years' completed service as apprentice in a Trinity House steam vessel will be allowed to count as two and a half years' service at sea towards qualifying a candidate to be examined for an ordinary certificate as second mate, the remaining 18 months' service required by the Regulations to be performed in a foreign-going (trading) sailing vessel.

Service in the Royal Navy and Royal Naval Reserve.

42. Officers of the Royal Navy are at liberty to apply for certificates of Service in Royal service and to be examined for certificates of competency in the mercantile Navy. marine, but the Lords Commissioners of the Admiralty have directed that the applications of officers on the active list should be made through their commanding officers, and that the applications of officers on half-pay should be made to the Secretary of the Admiralty, who, in either case, will forward the application to the Board of Trade.

43. The conditions on which certificates of service are issued are stated at page 27.

44. Officers of the Royal Navy desirous of being examined for certificates of competency in the mercantile marine will be required to prove the following service, and if the officer wishes to obtain an ordinary certificate he must prove that at least twelve months of this required period was served under sail alone.

45. For Second Mate.—A candidate must produce satisfactory evidence of four years' service at sea, or that he has attained the rank of acting sub-lieutenant.

46. For Only Mate.—A candidate must prove five years' service at sea.

47. For First Mate or Master.—A candidate must show that he has attained the rank of sub-lieutenant.

48. Officers of the Royal Naval Reserve who perform sea service on board Her Majesty's ships in the capacity of lieutenant or sub-lieutenant, will be allowed to count such service as if it had been performed on foreign-going merchant ships; and the service will rank according to the certificate of competency held by the candidate at the time.

49. If accompanied by a good report, half the time spent in drill in the Royal Naval Reserve, and in harbour ships of the Royal or Colonial Navies, will be allowed to count as sea service, subject to the limit that no such service must amount to more than one-fourth of the time required for the particular grade of certificate applied for. Drill in Royal Naval Reserve, &c.

NATURE and Length of Sea Service Required, and Subjects of Examination for Certificates of Competency.*

General Rules.

50. All candidates must pass the tests in colour vision before they can be examined for any certificate of competency. The Regulations relating to the examination in colours will be found in Appendix T. Colour vision.

51. No candidate will be allowed to be examined for any grade of certificate unless he has served at sea, either in the home, coasting or foreign trade, two years within the last six years, of which six months must have been served within the last three years immediately preceding the date of his application to be examined. Recent experience at sea.

52. A candidate for an ordinary certificate of any grade who has not previously held an ordinary certificate of a lower grade must prove that he has served 12 months in the foreign trade, or 18 months in the home or coasting trade, in a square-rigged sailing vessel, within the last five years. Service in square-rigged sailing vessels.

53. Where foreign-going certificates are required to be held to qualify candidates for examination (see paragraphs 59, 62, and 84, and Appendix S.), they may be either the ordinary certificates or those for fore-and-aft rigged vessels or for foreign-going steamships. Nature of Certificates.

54. Ordinary

* For convenience of calculation the service required is stated in a tabular form in Appendix S., p. 62.

Ordinary Certificates of Competency for a "Foreign-going Ship."

54. Ordinary certificates will entitle the holders to go to sea as mates or masters of any vessels sailing or steam.

Second Mate.

55. Second Mate. —A candidate must not be less than 17 years of age, and must have served four years at sea.

56. Examination in Navigation, &c.—He must write a legible hand and spell correctly, and will be required to give in writing (*vide also supplementary viva voce test*, page 26) definitions of various astronomical and other terms used in navigation.* He must have a competent knowledge of the first five rules of arithmetic and the use of logarithms. He must be able to work a day's work complete, correcting the courses for deviation, leeway, and variation. He will be required to find the latitude by meridian altitude of the sun, and the difference of longitude from a given departure by parallel sailing; also to find the course and distance from one position to another by Mercator's method. He will be required to find the time of high water at a given port, to observe and calculate the amplitude of the sun, and to find the error of the ship's compass therefrom, and also the deviation, the variation being given. He must be able to find the daily rate of the chronometer from error observed, and to find the longitude from altitude of the sun by the usual methods. He must understand the use of the sextant, with its adjustments, and be able to observe with it, find the index error by the horizon, and read *off* and *on* the arc.† He must also pass a satisfactory examination in the International Code of Signals.‡

57. Examination in Seamanship, &c.—He must give satisfactory answers as to the standing and running rigging of ships, as to bending, unbending, setting, reefing, taking in and furling sail; as to sending masts and yards up and down, &c., &c.; as to the management of a ship when under canvas; of a ship's boat in heavy weather; and as to dunnaging and stowing cargo, &c. He must have a thorough knowledge of the rule of the road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals,§ and be able to describe the signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals.|| He must be able to mark and use the lead and log lines. He must also understand the use and management of the rocket apparatus in the event of his vessel being stranded, and other questions of a like nature appertaining to the duties of the second mate of a ship, which the Examiner may think necessary to put to him. He will also be required to give satisfactory answers as to his knowledge of the additional subjects (applying more particularly to steamships) which are specified in the rules of examination for second mates' certificates of competency for foreign-going steamships.

Only Mate.

58. Only Mate.—A candidate must be not less than 19 years of age, and have served five years at sea.

First Mate.

59. ¶ First Mate. —A candidate must be not less than 19 years of age, and have served five years at sea, of which

- (a) One year must have been in a capacity not lower than fourth mate of a foreign-going vessel whilst holding a second mate's certificate for foreign-going vessels;

If his service was as third or fourth mate proof will be required that he had during the whole year *charge of a watch* (see paragraph 35);

- (b) *or* one year and a-half must have been in a capacity not lower than only mate in a home trade or coasting vessel whilst holding a second mate's certificate for foreign-going vessels, or a mate's certificate for home trade passenger ships;

- (c) *or* one year must have been as pilot with a first-class pilot's certificate (see paragraph 36).

60. Examination

* See Appendix B.

† See Appendix C.

‡ See Appendix D.

§ See Appendix E.

|| See Appendix F.

¶ For convenience of calculation the service required is stated in a tabular form in Appendix S.

60. Examination in Navigation.—In addition to the qualifications required for a second mate, an only and first mate must be able to find the true bearing of the sun and the error of the ship's compass from an observed azimuth of the sun, both from an altitude and also from the "Time Azimuth Tables," and with the variation given compute the deviation; to find the latitude from a single altitude of the sun off the meridian, and be able to use and adjust the sextant,* and to find the index error by the sun; also to ascertain the true bearing of the sun, &c., and the ship's position, by Sumner's method by projection.† He must also be conversant with the use of Mercator's chart, and be able to find, on either a "true" or "magnetic" chart,‡ the course to steer and the distance from one given position to another; and find the ship's position on the chart from cross bearings of two objects; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of ship from the object at the time of taking the second bearing. He must also understand how to keep a ship's log-book. He will also be required to answer certain questions, in writing (*and orally*), relative to cyclones or revolving storms.§

Only Mate and
First Mate.

61. Examination in Seamanship, &c.—In addition to the qualifications required for a second mate, an only and first mate will be required to show a more extensive knowledge of seamanship, as to shifting large spars, rigging sheers, taking lower masts in and out, how to moor and unmoor ships, and to keep a clear anchor; to carry out an anchor; how to manage a ship in stormy weather; how to cast a ship on a lee shore; how to secure the masts in the event of accident to the bowsprit; and how to rig purchases for getting heavy weights, anchors, machinery, &c., in and out. He must give satisfactory answers as to the ventilation of holds and the stowage of explosives. He must also know how to rig a sea anchor, and what means to apply to keep a vessel disabled or unmanageable out of the trough of the sea, and lessen her lee drift. How to get cast of deep sea lead in heavy weather; and answer any other questions appertaining to the duties of an only and first mate of a ship which the Examiner may think necessary to put to him. He will also be required to give satisfactory answers as to his knowledge of the additional subjects (applying more particularly to steamships) which are specified in the rules of Examination for only and first mates' certificates of competency for foreign going steamships.

62. || Master.—A candidate must be not less than 21 years of age, and—

Master.

- (a) he must have served six years at sea, of which one year must have been in a capacity not lower than only mate of a foreign-going vessel whilst holding a certificate not lower than an only mate's certificate for foreign-going vessels, and, unless this service as officer was performed whilst holding a first mate's certificate for foreign-going vessels, he will also be required to prove the officer's service prescribed for that grade (paragraph 59);
- (b) *or*, he must have served six years at sea, of which one year and a-half must have been in a capacity not lower than only mate of a home trade or coasting vessel whilst holding a certificate not lower than an only mate's certificate for foreign-going vessels, and, unless this service as officer was performed whilst holding a first mate's certificate for foreign-going vessels, he will also be required to prove the officer's service prescribed for that grade (paragraph 59);
- (c) *or*, he must have served six and a-half years at sea, one year of which must have been in a capacity not lower than second mate of a foreign-going vessel whilst holding a first mate's certificate for foreign-going vessels, and one year and a-half not lower than third or fourth mate of a foreign-going vessel *in charge of a watch* whilst

* See Appendix C.

† See Appendix N.

‡ See Appendix G. The terms "true" and "magnetic" are used throughout the regulations for the sake of brevity and convenience, for indicating charts that have compasses engraved upon them, showing the "true" or "magnetic" points of the compass respectively.

§ See Appendix H.

|| For convenience of calculation the service required is stated in a tabular form in Appendix S.

whilst holding a second mate's certificate for foreign-going vessels ;

- (d) or, he must have served nine years at sea in the home or coasting trade, of which three years must have been as master, or one year as master, and three years in a capacity not lower than that of mate, *provided that, in either case, he has served in such capacity for not less than one year with a second mate's certificate for foreign-going vessels or a master's certificate for home trade passenger ships.*

63. Examination in Navigation.—In addition to the qualifications required for a second, only, and first mate, a master must be able to compute the latitude from the meridian altitude of a star, &c. He must be able to find the magnetic bearing from equidistant compass bearings of any fixed object when at sea or at anchor, and compute the deviation therefrom. He must construct a deviation curve upon a "Napier's" diagram which will be furnished by the Examiner, and understand the practical application of the same, and give satisfactory written (*and oral*) answers to certain practical questions on the effect of the ship's iron upon the compasses, and the method of determining the deviation; showing how to compensate same by magnets and soft iron by the aid of Beall's compass deviascope.* He will be required to find the course to steer by compass in order to counteract the effect of a given current, and find the distance the ship will make good towards a given point in a certain time, and to work out practically the correction to apply to soundings taken at a given time and place to compare with the depth marked on the chart.†

64. Examination in Seamanship, &c.—In addition to the qualifications required of a second, only, and first mate, he must be able to construct jury rudders for both wooden and iron vessels, and also rafts. He will be examined as to his resources for the preservation of the ship's crew in the event of wreck; as to the management of ships in heavy weather; as to rescuing the crew of a disabled ship; as to steps to be taken when a ship is on her beam ends, or in any danger or difficulty; or if disabled or unmanageable and on a lee shore; heaving a keel out, &c. He must explain the mode of procedure when placing ship in dry dock, directing repairs, and if putting into port in distress with damage to cargo and ship. He must possess a sufficient knowledge of what he is required to do by law, as to entry and discharge, and the management of his crew, and as to penalties, and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship, and the law as to load-line marks, and the entries and reports to be made respecting them. He will be questioned as to his knowledge of invoices, charter party, bills of lading, Lloyd's agent, and as to the nature of bottomry, also bills of exchange, surveys, averages, &c.; and must answer any other questions of a like nature appertaining to the management of a ship which the Examiner may consider it necessary to touch upon. He will also be required to give satisfactory answers as to his knowledge of the additional subjects (applying more particularly to steamships) which are specified in the rules of examination for masters' certificates of competency for foreign-going steamships.

Certificates of Competency for Foreign-going "Fore-and-Aft rigged Vessels only."

Certificates for
Fore-and-Aft
rigged Vessels.

65. Certificates for the grades of master, first mate, only mate, and second mate of "fore-and-aft rigged vessels only," will be issued to candidates who have not complied with the regulation which requires them to have served at least one year in square-rigged *sailing* vessels within the last five years, or who prove in course of examination that they are ignorant of the management of square-rigged ships. In other respects the qualifications for examination for such certificates are the same as for ordinary certificates.

66. A certificate

* See Appendices I. and K.

† See Appendix G.

66. A certificate "for fore-and-aft rigged vessels only" will not entitle the possessor to act in a capacity for which a certificate is required in square-rigged vessels, amongst which are classed full-rigged ships, barques, brigs, barquentines, brigantines, and steamships carrying square sails.

67. A candidate possessing a certificate "for fore-and-aft rigged vessels only," and desiring to be examined for an ordinary certificate, must prove that he has served at sea at least one year in a square-rigged sailing vessel, within the last five years, *unless* he has previously held an ordinary certificate of a lower grade.

Certificates of Competency for "Foreign-going Steamships only."

68. Certificates of competency will be issued, subject to the examinations hereinafter described, for officers who have served in steamships, or who prove in course of examination that they are ignorant of the management of square-rigged sailing vessels, provided they are qualified as to service (*see* paragraphs 75 and 78). Foreign-going Steamships.

69. These certificates will entitle the holders to go to sea as masters or mates of foreign-going steamships, but will not entitle the holders to go to sea as masters or mates of foreign-going sailing ships.

There will be no distinction in respect of "fore and aft" and "square-rigged" steamships.

70. A candidate possessing a certificate for "foreign-going steamships only," and desiring to be examined for an ordinary certificate, must prove that he has served at sea at least one year in a square-rigged sailing vessel within the last five years, *unless* he has previously held an ordinary certificate of a lower grade.

71. Second Mate.—A candidate must be not less than 17 years of age, and must have served four years at sea. Second Mate.

72. Examination in Navigation, &c.—The examination in navigation, &c., will be precisely the same as that prescribed for an ordinary second mate's certificate (paragraph 56).

73. Examination in Seamanship, &c.—He must give satisfactory answers as to the standing and running rigging of steamships; as to bending, unbending, setting, reefing, taking in and furling sail; as to sending masts and yards up and down, &c., &c.; as to seeing everything in readiness and clear for getting under way, and as to the precautions to be then observed with regard to engines, propeller, &c.; as to the management of a steamship when under canvas; and of a ship's boat in heavy weather; and as to dunnaging and stowing cargo, &c. He must have a thorough knowledge of the rule of the road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals,* and be able to describe the signals of distress and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals.† He must be able to mark and use the lead and log lines. He must also understand the construction, use, and action of the sluices, and of the water-ballast tanks, engine-room telegraph, &c.; the use and management of the rocket apparatus in the event of his vessel being stranded, and other questions of a like nature appertaining to the duties of the second mate of a steamship, which the Examiner may think necessary to put to him.

74. Only Mate.—The qualifications as to age and service are the same as for an only mate's ordinary certificate for a foreign-going ship (*see* paragraph 58), excepting that no service in square-rigged vessels is required. Only Mate.

75. First Mate.—The qualifications as to age and service are the same as for a first mate's ordinary certificate for a foreign-going ship (*see* paragraph 59), excepting that the service required as officer must have been in steamships, and that no service in square-rigged vessels is required. First Mate.

76. Examination in Navigation, &c.—The examination in navigation, &c., for an only and first mate's certificate will be precisely the same as that prescribed for an ordinary only and first mate's certificate (paragraph 60). Only Mate and First Mate.

77. Examination

* See Appendix E.

† See Appendix F.

77. Examination in Seamanship.—In addition to the qualifications required for a second mate, a more extensive knowledge of seamanship will be required, as to shifting large spars, rigging sheers, taking lower masts in and out, how to moor and unmoor ship and to keep a clear anchor, to carry out an anchor; how to manage a steamship in stormy weather, and how to rig purchases for getting heavy weights, anchors, machinery, &c., in and out. He must give satisfactory answers as to the ventilation of holds, and the stowage of explosives. He must be able to describe the effects of the screw race upon the rudder; and the effect produced on the direction of the head of the ship by going [ahead] [astern] with a [right] [left] handed screw when the rudder is [ported] [starboarded]. He must also know how to rig a sea anchor, and what means to apply to keep a steamer with machinery disabled out of the trough of the sea, and lessen her lee drift. How to turn a steamship short round; how to get cast of deep sea lead in heavy weather, and other questions of a like nature appertaining to the duties of an only and first mate of a steamship which the Examiner may think necessary to put to him.

Master.

78. Master.—The qualifications as to age and service are the same as for a master's ordinary certificate for a foreign-going ship (*see* par. 62), excepting that the service required as officer must have been performed in steamships, and that no service in square-rigged vessels is required.

79. Examination in Navigation, &c.—The examination in navigation, &c., will be precisely the same as that prescribed for an ordinary master's certificate (paragraph 63).

80. Examination in Seamanship, &c.—In addition to the qualifications required of a second, only, and first mate, he must be able to construct rafts and jury rudders suitable for a screw steamship. He will be examined as to his resources for the preservation of the ship's crew in the event of wreck; as to the management of steamships in heavy weather; as to rescuing the crew of a disabled ship; as to steps to be taken when a ship is on her beam ends; or if disabled and on a lee shore. How to use steam appliances in the event of fire, and the best arrangement for towing vessels under different circumstances, placing ship in dry dock, directing repairs, and the mode of procedure if putting into port in distress with damage to cargo and ship. He must possess a sufficient knowledge of what he is required to do by law, as to entry and discharge, and the management of his crew, and as to the penalties, and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship, and the law as to load-line marks, and the entries and reports to be made respecting them. He will be questioned as to his knowledge of invoices, charter party, bills of lading, Lloyd's agent, and as to the nature of bottomry, also bills of exchange, surveys, averages, &c., and answer any other questions of a like nature appertaining to the management of a steamship which the Examiner may consider it necessary to touch upon.

Certificates of Competency for a "Home Trade Passenger Ship."

81. Mate.—A candidate must be not less than 19 years of age, and have served four years at sea.

82. Examination in Navigation, &c.—He must write a legible hand and spell correctly, and understand the first five rules of arithmetic, both simple and compound. He must be able to take a bearing by compass, and be conversant with the use of Mercator's Chart, and be able to find, on either a "true" or "magnetic" chart,* the course to steer, and the distance from one given position to another; to find the ship's position on the chart from cross bearings of two objects; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of the ship from the object at the time of taking the second bearing. He must also pass an examination in the International Code of Signals.†

83. Examination in Seamanship, &c.—He must possess a thorough knowledge of the rule of the road as regards both steamers and sailing vessels, their regulation

* See Appendix G., also page 11, foot-note ‡.

† See Appendix D.

regulation lights, and fog and sound signals.* He must be able to describe the signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals†; also the use and management of the rocket apparatus in the event of his vessel being stranded. He must be able to mark and use the lead and log lines, to moor and unmoor a vessel, and to manage a ship's boat in heavy weather, &c., &c. He must also understand the construction, use, and action of the bulkhead sluices, the engine-room telegraph, &c., and to answer any other questions of a like nature appertaining to the duties of the mate of a home trade passenger vessel which the Examiner may think proper to put to him.

84. ‡Master.—A candidate must be not less than 20 years of age and have served five years at sea, of which—

- (a) One year must have been in a capacity not lower than that of only mate of a home trade or coasting vessel, whilst holding a mate's certificate for home trade passenger ships, or an only mate's certificate for foreign-going vessels;
- (b) or, two and a half years must have been in a capacity not lower than second mate of a home trade or coasting vessel *in charge of a watch*, whilst holding a mate's certificate for home trade passenger ships, or a second mate's certificate for foreign-going vessels (see paragraph 35);
- (c) or, one year must have been as pilot with a first-class pilot's certificate (see paragraph 36).

85. Examination in Navigation, &c.—In addition to the qualifications required of a mate of a home trade passenger ship, a master will be required to find on a chart the course to steer by compass in order to counteract the effect of a given current and to find the distance the ship will make good towards a given point in a certain time, and to *work out practically* the correction to apply to soundings taken at a given time and place, to compare with the depth marked on the chart,§ &c. He will also be required to understand the use of the quadrant, to be able to observe with it, to read *off* and *on* the arc, and to find the index error by the horizon. He will also be required to find the latitude by a meridian altitude of the sun, and to give written answers (*vide also supplementary vivâ voce test*, page 26) to certain practical questions on the subject of the deviation of the compass.||

86. Examination in Seamanship, &c.—In addition to the qualifications required of a mate of a home trade passenger ship, a master must understand how to rig a sea anchor, and what means to apply to keep a steamship with machinery disabled out of the trough of the sea, &c. How to get a cast of the lead in heavy weather, &c. He will be examined as to his resources for the preservation of the crew and passengers in the event of wreck, and the steps to be taken if his vessel is disabled and drifting towards a lee shore, and will be required to answer any other questions appertaining to the management of a home trade passenger vessel which the Examiner may think necessary to put to him.

Examinations for Extra and Honorary Certificates.

Certificates of Competency as Extra Master.

87. An extra master's certificate will entitle the holder to go to sea as master of any vessel sailing or steam.

88. An extra master's examination is voluntary and intended for such persons as wish to prove their superior qualifications and are desirous of having certificates of the highest grade granted by the Board of Trade.

89. The extra examination may take place when the applicant is qualified to go up for examination for an ordinary master's certificate, or at any time subsequent to his having passed as master ordinary.

90. Examination

* See Appendix E.

† See Appendix F.

‡ For convenience of calculation the service required is stated in a tabular form in Appendix S.

§ See Appendix G.

|| See Appendix M.

90. Examination in Navigation.—In addition to the qualifications required for an ordinary master's certificate, the candidate will be required to work a lunar observation by either sun, star, or planet; to compute the altitudes for the same when they are not given; to determine the latitude by the meridian altitude of the moon, and by an altitude of the polar star at any time. He will be required to find the latitude by double altitudes of the sun, or of a star, and to verify the result by Sumner's method. He must find the error of a watch or chronometer from equal altitudes of the sun, and must be able to correct altitudes observed by means of an artificial horizon. He will be required to show a thorough knowledge of the laws of the deviation of the compasses in iron ships.* He must be acquainted with the leading principles of the construction of the sextant and of the "Vernier." He must explain the nature of great circle sailing, and show how to apply practically that knowledge; and must have a more extensive knowledge of the subject of the law of storms than that required by an ordinary master.

91. Examination in Seamanship, &c.—In addition to the qualifications required of an ordinary master, the extra master will be expected to give satisfactory answers to any questions in practical seamanship that the Examiners may think proper to put to him; and to show a more extensive knowledge and aptness in the civil duties of a shipmaster than would be expected from a candidate for an ordinary master's certificate.

Certificates of Competency as Extra Master for Foreign-going Steamships only.

92. Extra certificates for steamships only will also be issued, subject to the examination hereinafter described, to officers who can show the necessary service in steamships. The certificates will be marked "For Steamships only," and will only entitle the holders to go to sea as masters of *steamships*.

93. The examination is open to all who are qualified to go up for a master's certificate for foreign-going steamships, or who have already obtained such a certificate. It is open also to men who have failed in the examination for an extra master's certificate to show the requisite knowledge of the management of square-rigged sailing vessels, provided they can prove the necessary amount of officer's service in steamships. (See paragraph 131).

94. Examination in Navigation.—The examination in navigation, &c., will be precisely the same as that prescribed for the extra master's certificate. (See paragraph 90.)

95. Examination in Seamanship, &c.—In addition to the qualifications required of a master for foreign-going steamships only, the extra master will be expected to give satisfactory answers to any questions appertaining to the management of a steamship that the Examiner may think proper to put to him, and to show a more extensive knowledge and aptness in the civil duties of a shipmaster than would be expected from a candidate for a master's certificate for "Foreign-going Steamships only."

Certificates of Competency as Masters of Pleasure Yachts.

96. The examination is purely voluntary, and is to be confined to persons who command their own sea-going pleasure yachts, which yachts must not be employed in trading. A master of a yacht who is not also the sole owner, or who is under 21 years of age, is not eligible for examination.

97. Only one description of certificate will be issued, whether the yacht is foreign-going or only cruises within the home trade limits.

98. The certificate will not entitle the holder to command any vessel except the pleasure yacht of which he was owner at the time he passed his examination.

99. If the holder changes or disposes of his yacht, the certificate should be surrendered to the Superintendent of a Mercantile Marine Office for transmission to the Registrar General of Seamen. If a fresh certificate is required, application

* See Appendix L.

application should be made on Form Exn. 23, which can be obtained at any Mercantile Marine Office. If a fresh certificate is granted it will bear the name of the new yacht, and a fee of 10s. will be charged for it.

100. Candidates are not required to have served any specified time afloat, as it is believed that their sea knowledge will be sufficiently tested by the examination they will have to pass in seamanship.

101. Testimonials of service need not be produced.

102. In other respects the regulations framed for the conduct of the examinations of masters ordinary will apply to these cases, but applications will have to be submitted to the Board of Trade before authority for examination is granted.

103. Examination in Navigation, &c.—He will be required to give in writing (*vide also supplementary viva voce test, page 26*) definitions of various astronomical and other terms used in navigation.* He must have a competent knowledge of the first five rules of arithmetic and the use of logarithms. He must be able to work a day's work complete, correcting the courses for deviation, leeway, and variation. He will be required to find the latitude by meridian altitude of the sun, and the difference of longitude from a given departure by parallel sailing; also to find the course and distance from one position to another by Mercator's method. He will be required to find the time of high water at a given port, to observe and calculate the amplitude of the sun, and to find the error of the ship's compass therefrom, and also the deviation, the variation being given. He must be able to find the daily rate of the chronometer from error observed, and to find the longitude from altitude of the sun by the usual methods. He will be required to find the true bearing of the sun, and the error of the ship's compass from an observed azimuth of the sun, both from an altitude and also from the "Time Azimuth Tables," and with the variation given compute the deviation; to find the latitude from a single altitude of the sun off the meridian, and also to ascertain the true bearing of the sun, &c., and the ship's position by Sumner's method by projection.† He must be able to compute the latitude from the meridian altitude of a star, he must be able to find the magnetic bearing from equidistant compass bearings of any fixed object when at sea, and compute the deviation therefrom. He must construct a deviation curve upon a "Napier's" diagram which will be furnished by the Examiner, and must understand the practical application of the same, and give satisfactory written (*and oral*) answers to certain practical questions on the effect of the ship's iron upon the compasses, and the method of determining the deviation, showing how to compensate same by magnets and soft iron, by aid of Beall's compass deviascope.‡ He will also be required to answer certain questions, in writing (*and orally*), relating to cyclones or revolving storms.§ He must understand the use of the sextant with its adjustments, and be able to observe with it, and find the index error by the horizon, also by the sun, and read *off* and *on* the arc.|| He must also be conversant with the use of Mercator's chart, and be able to find, on either a "true" or "magnetic" chart,¶ the course to steer and the distance from one given position to another; and find the ship's position on the chart from cross bearings of two objects; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of ship from the object at the time of taking the second bearing. He will also be required to find the course to steer by compass in order to counteract the effect of a given current, and to find the distance the ship will make good towards a given point in a certain time, and to *work out practically* the correction to apply to soundings taken at a given time and place, to compare with the depth marked on the chart. He must also pass a satisfactory examination in the International Code of Signals.**

104. Examination in Seamanship, &c.—He must give satisfactory answers as to his knowledge of making and taking in sail, and as to the management of a yacht under canvas in moderate, and in stormy weather. He must have a thorough

* See Appendix B.

† See Appendix N.

‡ See Appendices I. and K.

§ See Appendix H.

|| See Appendix C.

¶ See Appendix G.; also page 11, footnote ‡.

** See Appendix D.

thorough knowledge of the rule of the road at sea as regards both steamers and sailing vessels*; their regulation lights, and fog and sound signals; and be able to describe the signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals.† He must also understand the use and management of the rocket apparatus in the event of his vessel being stranded. He must be able to mark and use the lead and log lines; to cast a vessel on a lee shore; to moor and unmoor a ship; to keep a clear anchor, and to carry out an anchor. He must know how to keep his vessel out of the trough of the sea in the event of accident. How to rig rafts and jury rudders, &c.; and the steps to be taken if his vessel is disabled or unmanageable and drifting towards a lee shore, and as to his resources for the preservation of the crew in the event of wreck. He must also possess a knowledge of what he is required to do by the Merchant Shipping Acts, and a knowledge of the measures he should adopt for preventing and checking the outbreak of scurvy on board; and to answer any other questions relating to the management of a yacht (either steam or sailing) which the Examiner may think necessary to touch upon.

Voluntary Examination in the Laws of the Deviation of the Compasses of Iron Ships.

105. Any person holding a certificate of any grade, whether for the foreign or home trade, or as master of his own pleasure yacht, who wishes to pass a *voluntary* examination in the syllabus‡ of examination on the laws of the deviation of the compasses of an iron ship, &c., can at any time be examined upon filling up the usual form of application, and paying to the Superintendent of the Mercantile Marine Office the fee of 1*l*. If the candidate passes the examination successfully a note to that effect will be duly made upon the certificate held by him.

Voluntary Examination in Steam.

Voluntary Examination in Steam.

106. These examinations are provided for the purpose of giving masters and mates who are possessed of certificates of competency an opportunity of undergoing a voluntary examination as to their practical knowledge of the use and working of the steam engine. They are conducted on the premises, and under the Superintendence of the Local Marine Boards, at such times as these boards may appoint for the purpose; and the Examiners are selected by the Board of Trade from the Engineer Surveyors appointed under the fourth part of "The Merchant Shipping Act, 1854."

Application how to be made.
Exn. 2.

107. Any person holding a certificate of any grade, whether for the foreign or home trade, or as master of his own pleasure yacht, who desires to be examined in steam must deliver to the Superintendent of the Mercantile Marine Office a statement in writing to that effect, upon the form of application (Exn. 2), and the applicant's certificate of competency must be delivered to the Superintendent along with his statement.

Fee to be paid.
Conduct of examination, &c.

108. A fee of 1*l*. must be paid by the applicant, and the Superintendent of the Mercantile Marine Office will thereupon inform him of the time and place at which he is to attend to be examined, and the examination will then and there proceed in the same manner as the other examinations. If the applicant fails, his certificate will be at once returned to him.

Record of Certificate.
Exn. 14.

109. If the applicant passes, the report (Exn. 14), will be sent to the Board of Trade, and the certificate of competency together with the form (Exn. 2), will be sent to the Registrar General of Seamen; the words "*Passed in Steam,*" with the date and place of examination, will then be entered on the certificate and its counterpart, and the certificate will be sent to the Superintendent of the Mercantile Marine Office of the port named in the application (Exn. 2), and be delivered to the applicant in the usual manner.

Failure.

110. If the applicant fails he may not present himself for re-examination until the expiration of three months from the date of failure.

Extent of examination.

111. The examination is for the most part *viva voce*, and extends to a general knowledge of the practical use and working of the steam engine, and of the various valves, fittings, and pieces of machinery connected with it. Intricate theoretical questions on calculations of horse-power or areas of cylinders and valves,

* See Appendix E.

† See Appendix F.

‡ See Appendix L.

valves, or any of the more difficult questions which appertain to steam engines and boilers, will not be asked. The examination will in fact be confined to the duties which a master of a steam vessel may be called upon to perform in the case of the death, incapacity, or delinquency of the engineer.

112. Examiners are to be careful in their examinations to satisfy themselves that applicants really do know the names and uses of the various parts of engines and boilers, and their connecting pipes, valves, cocks, &c. Practical knowledge, as distinguished from theories, abstruse calculations, and book learning, is to be the test of the applicant's fitness to have his certificate endorsed.

113. The Examiner should arrange to conduct part of the examination in the engine room of a steamship, unless from circumstances he finds it impossible to do so; and if an opportunity offer, the applicant should be permitted, under the guidance of the Examiner, to start and stop the engine of some vessel which may have her steam up. Where examination to be conducted.

114. The Examiner, in sending in his report of examinations of masters and mates in steam, should state where the examination has been held.

115. Candidates will be required to give written answers to 16 out of 20 questions taken from a book of elementary questions published for the Board of Trade.* These questions will be altered from time to time without notice. The 20 questions are not to be difficult, theoretical, or book questions, but are to be such as any man of ordinary capacity who has any *practical knowledge of the use and working of the steam engine ought to answer*. Examination in elementary questions.

116. These questions, with the candidates' answers, should be sent to the Board of Trade, with the reports, after each examination. Answers to be sent to the Board of Trade.

117. These answers will also assist in enabling the Board to decide any question that may hereafter arise in cases where it is alleged that applicants have been improperly passed, or improperly rejected.

118. If a candidate refers to any book or paper, or memorandum, or obtains information from another candidate during the examination, he will be treated as having failed, will forfeit his fee, and will not be allowed to be re-examined for a period of three months. Candidates referring to books &c. to be put down as failed.

119. The Examiners will report in the case of failure, the nature of the question or questions that decided the failure, or the point in the management of the engine in which the candidate was deficient. In cases of failure Examiner to report questions that decided it.

120. There is nothing in the Regulations requiring that applicants for the voluntary examination shall have served on board steamships: all that is required is that they shall have a "practical knowledge." Examiners will, of course, not fail to appreciate the fact, when passing applicants, that practical knowledge is best gained in the engine room; and the examination of an officer who does not produce official evidence of service in steamships, and of experience of engines, must necessarily be more searching than in the case of one who produces evidence of such service and experience. Service on board steamship unnecessary.

Provisional Certificates as First Mate and Master for Royal Naval Reserve purposes only.

121. Provisional certificates (either ordinary, or for foreign-going steamships, according to the applicant's qualifications) are granted on the conditions stated below to any officer of the mercantile marine who may require such a certificate to qualify him for appointment to or promotion in the Royal Naval Reserve. They are only available for purposes of the Royal Naval Reserve, and do not authorise the holders to go to sea as first mate or master.

122. Candidates for these certificates must apply to a Mercantile Marine Office, fill up the form of application (Exn. 2), and pay the usual fee. They must also produce their first or second mate's certificates of competency, and an authority from the Board of Trade or the Admiral Superintendent of Royal Naval Reserves before they can be examined. This authority should be obtained through the Registrar General of Seamen.

123. Provisional

* See Appendix O.

123. Provisional Certificates as First Mate.—Provisional certificates as first mate are granted to candidates who can prove that they have served five years at sea, and that during one year of this period they have served in a capacity not lower than fourth mate while holding a second mate's certificate. They must pass the usual examination for first mate and pay the usual fee. These certificates are exchangeable for the proper formal certificate as first mate, without further payment or examination, on production to the Registrar General of Seamen of satisfactory proofs that the holder has served at sea not less than 12 months in a foreign-going vessel in a capacity not lower than fourth mate, and that during the whole of that period he has been in regular charge of a watch and in possession of a proper formal certificate of competency as second mate.

124. Provisional Certificates as Master.—Provisional certificates as master are granted to candidates who can prove not less than six and a half years' service at sea, and who pass the usual examination for master and pay the usual fee. Of this service two and a half years must have been served in a capacity not lower than fourth mate of an ocean-going steamship, during the last 12 months of which the applicant must have been in possession of a proper formal first mate's certificate of competency (*not* a provisional certificate) authorising the holder to go to sea as first mate. These certificates are exchangeable for the proper formal certificate as master, without further payment or examination, on production to the Registrar General of Seamen of satisfactory proofs that the holder has served at sea not less than two and a half years in a foreign-going vessel *in charge of a watch* in a capacity not lower than fourth mate, and that during 12 months of this period he has served as second mate while in possession of a proper formal certificate of competency as first mate.

Failure in Examination.

Re-examination
in case of failure.

125. In all cases of failure the candidate must be examined *de novo*. If a candidate fails in *seamanship* he will not be re-examined until after a lapse of SIX months. Whether the whole or part of this period must be served at sea must depend upon the subjects in seamanship in which the candidate failed, but what amount (if any) of sea service will be required will be left to the discretion of the Local Marine Board, subject, however, to revision by the Board of Trade, should they see fit.

126. The Examiner, in making out his report on form (Exn. 14), should state what amount (if any) of further sea service the candidate must perform, and he should also insert this information under division H. in form (Exn. 2.)

127. If a candidate fails three times in *navigation* within three months, he will not be re-examined until after a lapse of THREE MONTHS from the date of the last failure.

Certificate of
lower grade.

128. If a candidate has failed in his examination, but the subjects in which he has failed are not included in the subjects required for a certificate of a lower grade, he may, if he desires it, receive a certificate of such lower grade.

129. No part, however, of the fee he has paid will be returned to him, and on presenting himself, when qualified, for re-examination for the higher grade of certificate he will be required to pay a further full fee.

130. If a candidate fails for bad spelling or writing, he will not be re-examined until after a lapse of at least three months. If he fails for ignorance of the English language he will not be re-examined until after a lapse of six months.

131. If a candidate fails in seamanship *so far as regards the management of square-rigged sailing vessels* in his examination for an ordinary certificate, he may, if qualified as to service, without further formal application, or further payment of fee, proceed with the examination for a certificate of competency for foreign-going steamships, or for fore and aft rigged vessels. And if a candidate fails in the same manner in his examination for an extra master's certificate, he may, under the same conditions as above, proceed with the examination for an extra certificate for steamships only.

Fees for Examination.

132. Candidates for examination, in making their application on form (Exn. 2), will be required to pay the examination fee before any step is taken, in the way of inquiring into their services or testing their qualifications, &c. Should it be found that their service is not sufficient to entitle them to be examined, or should their testimonials be unsatisfactory, or should they from any other cause, except failure to pass the colour vision test (*see* Appendix T.), not be examined, no part of the fee will be returned to them, but when they have fulfilled the requisite service, or are able to produce satisfactory testimonials, as the case may be, they will be allowed to again present themselves for examination for a certificate of the same grade without paying any further fee.

133. The fee for examination must be paid to the Superintendent of the Mercantile Marine Office in the cash office. In any case in which a candidate offers money to any other officer than a Superintendent or in any place but in the cash office, the candidate so offering money will be regarded as having committed an act of misconduct, and will be rejected, and not allowed to be again examined for twelve months either at the port where the offence was committed, or at any other port.

Fees to be paid by applicants for examination, s. 133.

134. If a candidate fail in his examination *no part of the fee will be returned to him.*

The fees are as follow :—

For “Foreign-going Ships.”

	£.	s.	d.
Second mate - - - - -	1	-	-
First and only mate, if previously possessing an inferior certificate, either granted by the Board of Trade, or by the Government of a British Possession <i>under Section 8 of the “Merchant Shipping (Colonial) Act, 1869”</i> - - - - -	10	-	-
If not - - - - -	1	-	-
Master - - - - -	2	-	-
Where a candidate is in possession of a certificate for fore and aft rigged vessels, and requires an ordinary or a steamship certificate of the same grade; or where a candidate is in possession of a steamship certificate, and requires an ordinary certificate of the same grade - - - - -	Half the usual fee.		
Master extra, if possessing an ordinary master's certificate; or master extra for steamships only, if possessing a master's certificate for steamships only; first attempt - - - - -	Nil.		
Master extra, or master extra for steamships only, for every subsequent attempt - - - - -	1	-	—*
Where a candidate is in possession of a colonial certificate for foreign-going ships, not granted under the <i>Merchant Shipping (Colonial) Act, 1869</i> ; or of a provisional certificate of qualification obtained after examination on board one of Her Majesty's ships; for an Imperial certificate of same grade, for first attempt - - - - -	No fee.		
Every subsequent attempt - - - - -	Usual fee.		

For “Home Trade Passenger Ships.”

Mate - - - - -	10	-	-
Master - - - - -	1	-	-

For

* If the examination for the extra master's certificate takes place at the same time as the examination for the ordinary master's certificate the usual fee for the ordinary master's certificate must be paid, though no fee will be charged for the extra master's examination on the first attempt. On all subsequent attempts the fee of 1*l.* will be charged for the extra master's examination in addition to any further charge which may have been incurred through failure to pass the ordinary master's examination. The same rule as to fees also applies to the examination for extra master for steamships only when taking place at the same time as that for master for steamships only.

For Voluntary Examination in Steam.

Any master or mate holding a certificate of any *£. s. d.*
 grade, whether for the foreign or home trade,
 or as master of his own pleasure yacht - - - 1 - -

For Voluntary Examination in Deviation of the Compass.

Any master or mate holding a certificate of any
 grade, whether for the foreign or home trade,
 or as master of his own pleasure yacht - - - 1 - -

For "Pleasure Yachts."

Master - - - - - 2 - -

NOTE.—No abatement will be made in the fee charged to a candidate for a certificate for foreign-going ships in consequence of his possessing a master's or mate's certificate for home trade passenger ships.

General Instructions to Examiners and Candidates.

Instruments used
in examinations.

135. All instruments necessary for use in the examinations are supplied by the Board of Trade.

136. The examination papers of candidates must in all cases be sent to the Principal Examiner in London for his approval, together with the report of the examination on the form, *Exn. 14*. The envelopes containing the examination papers when received from London must on no account be opened by any officer other than the Examiner, and by him only at the commencement of the examination. After the envelopes have been opened, and until the examination papers are again sealed up and despatched to London, the Examiner is expected to take special precautions to preclude possibility of any person having access to them. The responsibility that this is effectually done will rest with the Examiner. The envelopes in which the examination papers are returned to the Principal Examiner must be carefully sealed with the official seal, under the immediate eye of the Examiner, at both the top and the bottom. Should the envelope containing the examination papers appear to have been opened or in any way tampered with on its arrival from London, the Examiner should, if he thinks it necessary, defer the examination until the following day, and telegraph immediately to the Principal Examiner in London for a fresh set of papers. In the event of any case of this kind occurring, a full report of the circumstances, and of the steps taken in the matter, should be immediately forwarded to the Principal Examiner.

Candidates not to
be examined twice
in same week.

137. A candidate will not be allowed to undergo examination twice in the same week, unless, under very special and urgent circumstances, the Local Marine Board or the Examiners should see fit to relax this rule. In that case a special set of problems should be applied for from London.

Prohibited books
and papers.

138. Before commencing the examination, the tables or desks must be cleared of all scraps of paper or books that are not used in the examination, and care should be taken that the candidates do not bring into the examination room any book, paper, document, or memoranda of any description whatever. No person whatever should be allowed in the room during the time of examination, but those whose duties require them to be present.

139. No instructors will be allowed on the premises.

Candidates not to
leave premises
during
examination.

140. Candidates will under no pretence whatever be allowed to leave the premises while the examination is proceeding. If a candidate has occasion to visit the retiring room he will only be allowed to do so on the completion of the paper on which he may be engaged, when he will be required to enter in a book, kept for the purpose, the exact time of his leaving and returning to the examination room. At ports where only a few candidates are under examination, two persons will not be allowed to leave the room at the same time.

Position of
candidates at
examination.

141. Candidates should be so placed as to prevent one copying from the other, and no communication whatever between the candidates should be allowed.

Blotting paper.

142. A sheet of blotting paper should be issued to each candidate with the first examination paper, and it must be returned to the Examiner when the last paper

paper is completed each day. The Examiner will be careful to see that the blotting paper has not been used by the candidate in solving his problems, or for conveying information to other candidates (see paragraph 176).

143. The examination papers should be issued to the candidates in half sheets only, and one at a time. This will prevent a candidate from spreading out the sheets on the table so as to enable his nearest neighbour to look over and copy or examine the problems. It will also enable the Examiner to look over and report upon the work on one half sheet, while the candidate is at work upon another, and so on. When the errors are not too numerous, or when they do not arise from ignorance of the subject, the incorrect problems may be returned to the candidate for correction, but in no case should the errors be pointed out by the Examiner, neither should any marks be made on the correct work of the problem, which would at once indicate how far or to what extent the work is correct. Should the problems be returned to the Examiner the second time incorrect, this would be a failure; and as the time allowed is considered ample for working out the papers carefully, this rule is expected to be strictly observed.

How examination papers should be issued.

144. At those ports where, from the large number of the candidates, it may sometimes be found impossible to look over the work on the day of examination during the office hours, an hour in the morning of the following day may be allotted for the purpose of correcting the problems, but in no case should a candidate have his problem returned to him for correction after he has made the second attempt.

In certain cases problems may be corrected on morning following examination day.

145. The paper (Exn. 4a.) is only for those candidates who present themselves for examination for the first time for a foreign-going certificate. It is intended not only to insure on the part of the candidate a knowledge of the meaning of a variety of terms of great use to the navigator respecting which much ignorance exists at present, but, at the same time, to test his handwriting and spelling.

Exn. 4a
Definitions

146. In using this paper, the Examiner will place a mark against the numbers of the particular questions which he selects for answers, and not less than ten questions should be selected. The candidate will then write against the questions so marked his definition of the terms in a clear and legible hand, so as to prevent the possibility of any letter being mistaken. Attention must be paid to the spelling and writing of all grades of candidates. The supplementary *viva voce* test should also be applied as usual.

147. In the questions on deviation of the compass (Exn. 7., Appendix I.) the Examiner should mark at least twelve of the questions and those indicated must be correctly answered. The selected questions should be varied frequently, and no two candidates should have precisely the same questions. The candidate should be furnished with sheets of the blank ruled paper which is supplied for that purpose, with instructions that he is to write only on one side of the paper, and to answer in a clear and legible hand each of the questions against which a mark is placed, and to commence each answer by writing down the number of the question to which it relates in the margin left for that purpose. In answering question 39 on the *tentative* method* of compass adjustment, the candidate will be tested by "Beall's compass deviascope," and it will not therefore be necessary for him to give the written answer and sketches. A candidate for an extra master's certificate will not be required to answer the questions on the deviations of the compass on "Exn. 7.," but will be examined by the syllabus (Appendix I.) and "Compass Deviascope."

Questions on deviation of the compass.
(Exn. 7., Appendix I.)

148. In the *viva voce* examination a reasonable time should be allowed for the candidate to give his answers. No assistance should be given or leading question put.

Viva voce
examination.

149. Particular attention should be paid to the adjustments of the sextant, and the written answers should be given on the ruled paper in the same manner as the answers to the questions on Exn. 7., and the supplementary *viva voce* test should be applied as usual. Every candidate should have a practical knowledge of

Adjustment of
sextant.

* See Appendix K.

of what is known as the first three adjustments, and be able to read correctly *off* the arc, a supposed index error to be given by the Examiner as additive, as well as reading *on* the arc in the usual way.

Minor corrections.

150. All outstanding or minor corrections should appear in the margin of each problem paper; also on the chart papers Exn. 9 C. and Exn. 9 D., and unless all these corrections appear on the papers of the candidate they will not be considered complete.

Examination to commence with that for second mate.

151. In every case the examination, whether for only mate, first mate, master, or master extra, is to commence with the problems for second mate.

Problems required as tests.

152. Examiners should bear in mind that the problems to be solved are required as tests, and for the purposes of an examination, and not for sea-going or practical purposes alone.

153. The candidates will be allowed to work out the various problems according to the method and the tables they have been accustomed to use.

Time allowed for Problems and Writings.

Time allowed for problems and writings.

154. Candidates for second mates' ordinary certificates of competency must complete the whole of their examination in navigation in *eight hours*, including the time allowed for writing the definitions (Exn. 4a), the paper on the adjustment of the sextant, and the correction of *all* errors and oversights; but the nautical problems on forms "Exn. 4" and "Exn. 5" must be completed within *six hours*, and without the candidates leaving the premises during that period.

155. Candidates for only and first mates' ordinary certificates must complete the whole of their examination in navigation in *twelve and a half hours** including the time allowed for the papers on the sextant, the chart, cyclones or revolving storms; and for the correction of *all* errors and oversights; but the nautical problems on forms "Exn. 4," "Exn. 5," and "Exn. 6" must be completed within *six hours*, and without the candidates leaving the premises during that period.

156. Candidates for ordinary certificates as masters must complete the whole of their examination in navigation in *fifteen hours*, including the time allowed for the papers on the sextant, the chart, compass deviation, cyclones or revolving storms; and for the correction of *all* errors and oversights; but the problems on forms "Exn. 4," "Exn. 5," and "Exn. 6" must be completed within *six hours*, and without the candidates leaving the premises during that period.

157. Candidates, after finishing the problems required in the various grades on the first day of examination, should proceed, until the end of that day, with such subjects as the definitions, sextant, chart, &c.

158. The Sumner Problem (Exn. 6a) must on no account be given out to any candidate on the first day of the examination, but should form the commencement of the candidates' work on the second day, and on completion of this problem the candidates for masters' certificates should proceed with the problems on paper "Exn. 7."

159. Candidates for home trade mates' certificates must complete the whole of their arithmetical, chart, and other papers within *eight hours*, and candidates for certificates as masters of home trade passenger ships within *ten hours*.

160. Candidates for foreign-going steamships certificates of competency will be allowed the same amount of time to perform their navigation, &c., as herein-before laid down for the respective grades for the ordinary foreign-going certificates.

Yachts.

161. Candidates for certificates as masters of pleasure yachts will be allowed the same amount of time for completing their examination as the candidates for ordinary masters' certificates.

162. Extra Masters' Certificates.—The time allowed candidates for examination for certificates of competency as extra master, and for extra master for steamships

* A candidate (other than second mate) who may not previously have passed an examination may be allowed the time occupied in writing his definitions on Exn. 4a, in addition to the above.

steamships only, to complete the whole of the problems and writings (including the compass syllabus and the correction of all errors and oversights) must not exceed 26 hours.

163. Deviation of the Compass.—A period not exceeding eleven hours will be allowed to candidates for the completion of the whole of the examination in the syllabus, including the correction of all errors and oversights in both the problems and writings.

164. Punctually at the expiration of the prescribed time all the papers should be called up, whether completed or not, and, if not completed, the candidate will be declared to have failed, unless the Local Marine Board or the Examiner see fit to lengthen the period in any special case. If, however, the period is lengthened in any case, the special circumstances of that case, and the reasons for lengthening the period, together with the time allowed, must be reported to the Board of Trade by the Examiners, in the column for "remarks" on the form Exn. 14. It should be noted that the periods prescribed in the foregoing paragraphs are not intended to include the time occupied by the *viva voce* part of the examination.

Additional
time allowed in
special cases.

165. It is anticipated that but few of the candidates for certificates of competency will require the whole of the time herein allowed for completing their examination in navigation; and ample time has been prescribed, so that candidates may perform their work in a careful, clear, and legible manner, and to the entire satisfaction of the Examiners.

Degree of Precision required in the Solution of the Problems.

166. In order to prevent any misapprehension as to the degree of precision required by the Board of Trade Regulations in working out the various problems in the examinations for masters' and mates' certificates, the attention of Examiners and candidates is particularly directed to the following instructions:—

- (a) Candidates are expected to work out their answers to all problems within or not to exceed a margin of 1' of *position* from a correct result (*e.g.*, in problems where the answer required is a latitude, longitude, or distance); in finding the ship's position by "Sumner's" method a margin of $2\frac{1}{2}'$ will be allowed.
- (b) In such problems as the "Amplitude" and "Alt-Azimuth," where the bearings, deviations, &c., only are required, a margin of 2', or 3', from a correct result will be sufficiently accurate.
- (c) In no problem is the candidate for an ordinary certificate required by the Regulations to correct for *second differences* in taking out the quantities from the "Nautical Almanac."
- (d) In solving the "Time Azimuth" problem an answer not exceeding half a degree from the exact result will be sufficiently near. But in all cases the actual latitude, declination, and time used, together with the exact bearing (from the North or South) as given in the tables, must be clearly shown by the candidate on his papers.
- (e) In interpolating for the correct deviation to be applied in solving the chart questions (papers "Exn. 9 C." and "Exn. 9 D.") it will usually be sufficiently near if the candidate works throughout with the nearest degree of deviation taken from the "Deviation Card"; and even in cases where the deviations may vary but little, the nearest half degree used throughout will be sufficiently precise, and will at the same time prove whether the candidate understands the method of arriving at the amount of deviations and applying them. It is not necessary that the candidate should waste his time in solving the course to *odd minutes*, as is sometimes done.
- (f) In calculating the correction to apply to the soundings (Question 5 of paper "Exn. 9 D."), the candidate is not required to work out to the exact inch, as is sometimes done. It will be sufficiently near if he brings his answer within half a foot or so of a precise result.

It must be clearly understood in reading the foregoing instructions as to the precision required, that they only apply when the work of the candidate is correct in principle.

Supplementary vivâ voce Examination on the written Papers.

167. An impression prevails in regard to the examination of masters and mates, that so long as a candidate can commit to paper correct answers to the various questions in the examinations requiring written answers, no matter how indicative the answers may be of their having been learnt off by rote *only*, the duty and responsibility of the local Examiners are at an end, and that they have no power or authority to reject a candidate should his written answers be correct.

168. It is therefore to be noted that candidates for certificates of competency are not only expected to give correct written answers, which may merely be learnt off by rote, but are also expected to possess an intelligent knowledge of the various subjects, including the problems, prescribed in the Regulations, particularly as regards the important subject of the deviation of the compass.

169. The Board of Trade are of opinion that this result may be easily attained by the local Examiner putting a few *vivâ voce* questions to the candidate as the papers are brought up for inspection, or at any subsequent time if more convenient. The oral questions (suggested by the printed questions and the answers given) should be such that the Examiner may satisfy himself that the candidate possesses a real knowledge of what he has written, and should be confined strictly to the subjects of the printed questions. Should the candidate then exhibit ignorance of the subjects, the Examiner (who is in a position to judge of the real knowledge the man before him possesses) should deal with him at his discretion, notwithstanding that the candidate may have written all the answers correctly by rote.

170. When an Examiner finds it necessary to fail a candidate in this *supplementary vivâ voce* test, a statement to that effect must be made on the candidate's examination papers, when forwarded, in the usual course, to the Principal Examiner in London.

Special Notice to Candidates.

171. The attention of candidates is specially called to the following Regulations:—

172. Candidates are required to appear at the examination room punctually at the time appointed.

173. Candidates are prohibited from bringing into the examination room books, paper, or memoranda of any kind whatever. The slightest infringement of this Regulation will subject the offender to all the penalties of a failure, and he will not be allowed to present himself for re-examination for a period of three months.

174. In the event of any candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books, or any of the forms belonging to the Board, the papers of such candidate will be detained until the book or books so defaced are replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Board. He will further subject himself to all the penalties of a failure.

175. In the event of any candidate being discovered referring to any book or memoranda, copying from another, or affording any assistance or giving any information to another, or communicating in any way with another, during the time of examination, or copying any part of the problems for the purpose of taking them out of the examination rooms, he will subject himself to all the penalties of a failure, and will not be allowed to be examined for a period of six months.

176. No candidate will be allowed to work out his problems on a slate or on waste paper, or to write on the blotting paper supplied for his use in the
examination

examination. Violation of this rule will subject the candidate to all the penalties of a failure.

177. No candidate will be permitted to leave the examination room without permission, and until he has given up the paper on which he is engaged. Violation of this rule will subject the candidate to all the penalties of a failure.

178. Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences" which have been given in that work in order to facilitate such calculations; they will thereby render themselves independent of any proportional or logarithmic table for such purpose.

179. The corrections by inspection of tables given in some of the works on navigation will not be allowed (*see* Tables IX., XI., and XXI. in Norie's Epitome, &c.); every correction must appear on the papers of the candidates.

180. Perfect silence is to be preserved in the examination room, and any candidate violating any of the Regulations, or being guilty of insolence to the Examiner, or of disorderly or improper conduct, in or about the room, will render himself liable to the postponement of his examination, or, if he has passed, to the detention of his certificate for such period as the Board of Trade may direct.

181. For rules as to amount of time allowed to perform the work, *see* page 24.

Certificates of Service.

Certificates of Service.

182. An officer who has served as either master or mate in a British merchant ship before the 1st January 1851; also an officer who has attained or attains the rank of lieutenant, master, passed mate, or second master, or any higher rank in the service of Her Majesty, or of the late East India Company, is entitled to a certificate of service as master or mate, and to serve as master or mate of a British merchant ship, not being a home trade passenger ship.

For foreign-going vessels. M.S. Act, 1854, s. 135.

By an Order in Council of 16th April 1861 the rank of sub-lieutenant was substituted for that of passed mate, and by Order in Council of the 25th June 1867 the title of master and second master were altered to those of navigating lieutenant and navigating sub-lieutenant respectively.

183. An officer who has served as master or mate in a home trade passenger ship before the 1st January 1854, is entitled to a certificate of service as master or mate, and to serve in those capacities again.

For home trade passenger ships.

184. Applications for certificates of service must be made on a printed form, to be obtained free of charge of the Registrar-General of Seamen, Custom House, London, E.C., or of the Superintendent of any Mercantile Marine Office.

185. Applications for certificates of service by officers of the Royal Navy can only be entertained on the conditions stated at page 9.

Colonial Certificates, &c.

Colonial Certificates.

186. Under Section 8 of the "Merchant Shipping (Colonial) Act, 1869," and subject to certain conditions, Her Majesty may, by Order in Council, authorise the Governments of British Possessions to grant certificates of *competency*, which shall be of the same force as certificates of competency granted by the Board of Trade.

187. This advantage has already been extended to certain of the certificates granted by the Governments of the following British Possessions,* viz. :—

COLONY.	Certificates.		Date of Original Order in Council.	Date from which Order in Council takes effect.
	By whom Granted in Colony.	Description.		
Victoria - -	§ Marine Board - -	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	30 Mar. 1871	4 Jan. 1870
Canada - -	The Minister of Marine and Fisheries.	Master; mate† - - - -	19 Aug. 1871	19 Aug. 1871
New Zealand -	Governor - - -	1st class engineer; 2nd class engineer	10 Nov. 1886	1 Jan. 1887
		Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	9 Aug. 1872	1 May 1872
New South Wales -	Marine Board - -	Master; 1st mate; 2nd mate; 1st class engineer; 2nd class engineer.	30 Aug. 1873	18 June 1872
Malta - - -	The Head of the Government.	Master; 1st mate; 2nd mate; 1st class engineer; 2nd class engineer.	12 May 1874	12 May 1874
South Australia -	Marine Board - -	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	12 May 1874	12 May 1874
Tasmania - -	Board of Examiners under authority of the Governor.	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	12 Feb. 1876	1 April 1876
Bengal - - -	Lieutenant Governor -	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	27 June 1876	27 June 1876
† Newfoundland -	Governor - - -	Master; 1st mate; only mate; 2nd mate.	14 May 1877	14 May 1877
Bombay - - -	Governor - - -	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	11 July 1877	11 July 1877
Queensland - -	Marine Board - -	Master; 1st mate; 2nd mate; 1st class engineer; 2nd class engineer.	26 Mar. 1878	1 Oct. 1877
Hong Kong - -	Governor - - -	Master; 1st mate; only mate; 2nd mate; 1st class engineer; 2nd class engineer.	31 Dec. 1883	1 Jan. 1884
Straits Settlements	Governor - - -	Master; 1st mate; 2nd mate - - 1st class engineer; 2nd class engineer.	1 May 1890 - -	1 June 1890 1 Aug. 1888
‡ Mauritius - -	Governor - - -	Master; 1st mate; 2nd mate - -	22 Nov. 1890	1 Jan. 1891

† Equivalent to first mate.

‡ Newfoundland and Mauritius do not issue Engineer Certificates under their Orders in Council.

§ The Steam Navigation Board was superseded by the Marine Board on the 21st December 1888. See Order in Council of 23rd November 1893.

Colonial
certificate not
granted under
" Merchant
Shipping
(Colonial)
Act, 1869."

188. The holder of an ordinary colonial certificate, *i.e.*, a certificate for foreign-going ships, not granted under the " Merchant Shipping (Colonial) Act, 1869," desirous of being examined for an Imperial certificate of the same grade, must prove that he has performed the amount of service required by the Regulations to entitle him to hold such a certificate. He must also produce satisfactory testimonials as to character for at least the 12 months immediately preceding his application to be examined.

* See Order in Council of 9th May 1891.

APPENDIX A.
Examination Days.

Places.	For Masters and Mates.
Aberdeen* - -	1st, 2nd, 4th, and 5th Tuesday in each month.
Belfast* - -	1st and 3rd Tuesday in each month.
Bristol* - -	2nd Tuesday in each month.
Cardiff* - -	1st and 5th Tuesday in each month.
Cork - -	1st and 3rd Tuesday in each month.
Dublin* - -	2nd and 4th Tuesday in each month.
Dundee* - -	1st, 3rd, and 5th Tuesday in each month.
Glasgow* - -	1st, 3rd, and 5th Tuesday in each month.
Greenock* - -	2nd and 4th Tuesday in each month.
Hartlepool, West -	1st Thursday in each month.
Hull* - -	2nd and 4th Tuesday in each month.
Leith* - -	2nd and 4th Tuesday in each month.
Liverpool* - -	Monday in each week.
London* - -	Monday in each week. Master's voluntary examination in Steam held on Friday in each week.
Newport, Mon.* -	3rd Tuesday in each month.
Plymouth* - -	Monday in each week.
Shields, South* -	1st, 3rd, and 5th Tuesday in each month.
Southampton - -	1st and 3rd Thursday in each month.
Sunderland* - -	2nd and 4th Tuesday in each month.
Swansea* - -	4th Tuesday in each month.

* At these places examinations for Extra Masters' Certificates are held.

N.B.—The examination days are liable to occasional alteration, and candidates are therefore advised to ascertain the actual date of examination from the Superintendent of the Mercantile Marine Office.

APPENDIX B.

N.B.—The candidate is to write a short definition against so many of the following terms as may be marked with a cross by the Examiner. The Examiner will not mark less than 10. The writing should be clear, and the spelling should not be disregarded.

- | | |
|---|--|
| 1. The Equator. | 24. Polar Distance. |
| 2. The Poles. | 25. Right Ascension. |
| 3. A Meridian. | 26. Dip or Depression of the Horizon. |
| 4. The Ecliptic. | 27. Refraction. |
| 5. The Tropics. | 28. Parallax. |
| 6. Latitude. | 29. Semi-diameter. |
| 7. Parallels of Latitude. | 30. Augmentation of Moon's Semi-dia-
meter. |
| 8. Longitude. | 31. Observed Altitude. |
| 9. The Visible Horizon. | 32. Apparent Altitude. |
| 10. The Sensible Horizon. | 33. True Altitude. |
| 11. The Rational Horizon. | 34. Zenith Distance. |
| 12. Artificial Horizon and its use. | 35. Vertical Circles. |
| 13. True Course of a Ship. | 36. Prime Vertical. |
| 14. Magnetic Course. | 37. Civil Time. |
| 15. Compass Course. | 38. Astronomical Time. |
| 16. Variation of the Compass. | 39. Sidereal Time. |
| 17. Deviation of the Compass. | 40. Mean Time. |
| 18. The Error of the Compass. | 41. Apparent Time. |
| 19. Lee Way. | 42. Equation of Time. |
| 20. Meridian Altitude of a Celestial Ob-
ject. | 43. Hour Angle of a Celestial Object. |
| 21. Azimuth. | 44. Complement of an Arc or Angle. |
| 22. Amplitude. | 45. Supplement of ditto. |
| 23. Declination. | |

APPENDIX C.

Adjustments of the Sextant.

The applicant will answer in writing, on paper which will be given him by the Examiner, all the following questions, numbering his answers with the numbers corresponding to the questions:—

Question—

1. What is the first adjustment of the sextant?
2. How do you make that adjustment?
3. What is the second adjustment?
4. Describe how you make that adjustment?
5. What is the third adjustment?
6. How would you make the third adjustment?
7. In the absence of a screw how would you proceed?
8. How would you find the index error by the horizon?
9. How is it to be applied?
10. Place the index at error of _____ minutes to be added, clamp it, and leave it.

(*Note.*—The Examiner will see that it is correct.)

11. The Examiner will then place the zero of the vernier on the arc, not near any of the marked divisions, and the candidate will read it.

Note.—In all cases the applicants will name or otherwise point out the screws used in the various adjustments.

(The above completes the examination of second mates.)

Candidates for only mates', first mates', and masters' certificates will be required to give in writing, replies to the following questions, *in addition* to those required of candidates for second mates' certificates as above.

12. How do you find the index error by the Sun?
13. The readings being { _____ } What is the index error, and how do you apply it?
14. What proof have you that those measurements or angles have been taken with tolerable accuracy?

APPENDIX D.

EXAMINATION of Masters and Mates in the International Code of Signals.

Instructions to Examiners.

THE Board of Trade desire to direct the attention of the Examiners to the principal points connected with the International Code of Signals (which is to be treated as a subject in navigation), as to which candidates for examinations should be questioned in order to qualify for certificates of competency.

The Board would recommend to the Examiners a perusal of the Report of the Signal Committee of 1855 (which will be found at the commencement of the Signal Book), and also the first few pages of the book. The information therein given will be found sufficient to make the Examiners theoretically acquainted with the characteristics of the code, and the advantages it claims to possess over other codes, and will enable them to appreciate and urge upon candidates for examination the facilities which this system of signalling affords for easy and rapid communication.

The "comprehensiveness" and "distinctness" of the International Code are its chief recommendations.

The form of the hoist generally indicates the nature of the signal made, so that an observer can at sight understand the character of the signal he sees flying.

The annexed plate gives examples which illustrate this.

The examinations should tend to elicit a knowledge of the distinctive features of the code above alluded to.

With this object, the Examiners should make the 2, 3, and 4 flag signals on the frame board which is furnished for the purpose (always taking care first to show the ensign and the code pennant at the gaff),* questioning the candidates as to the distinguishing forms of the respective hoists (*see* plate annexed), which will be indicated according as a burgee, or a pennant, or a square flag is uppermost.

The candidate ought to know how to find in the Signal Book the communication or the inquiry he desires to make, and how to make the signal. The signal to be made should invariably be sought for by the candidate in the Vocabulary and Index, Part II., and never in Part I.

The

* The object of this is, of course, to distinguish the signals from those of another code.

FLAGS OF THE INTERNATIONAL CODE OF SIGNALS.



N.B.—When used as the “Code Signal,” this Pennant is to be hoisted under the “Ensign”; when used as the “Answering Pennant,” where best seen.

The following examples will serve to illustrate how the form of a Hoist will usually denote the nature of the Signal made:—

ONE FLAG.		TWO FLAGS.		THREE FLAGS.		FOUR FLAGS.			
ONE FLAG.		BURGEE uppermost, “ATTENTION” Signals.	PENNANT uppermost, “COMPASS” Signals.	SQUARE FLAG uppermost, “URGENT” Signals.	General Signals.	BURGEE uppermost, GEOGRAPHICAL Signals.	PENNANTS C, D, F uppermost, NATIONAL VOCABULARY.	PENNANT G uppermost, Names of MEN-OF-WAR.	SQUARE FLAG uppermost, Names of MERCHANT SHIPS.
		WHAT SHIP IS THAT?	W. BY S.	IN DISTRESS, WANT ASSISTANCE.	ENGINE BROKEN DOWN.	CALL FOR ORDERS OFF—.	WHAT SHIPS HAVE YOU SPOKEN?	“MARLBOROUGH” SCREW—131 GUNS	“MARCO POLO,” No. 6025.



The candidate ought to know how to interpret a signal.

The Examiner should place a signal on the frame board, and vary the signal by showing a two or three flag signal, or a "Geographical" or a "Vocabulary" signal, or the name of a merchant ship or a ship of war.

The two latter signals would not, of course, be found in the Signal Book. The candidate ought to point them out in the Code List of Ships.

A candidate ought to be able to read off a signal at sight, so far as to name the flags composing the hoist.

He ought to know the use of the Code Pennant, and of the Pennants C. and D., "Yes" and "No."

The candidate should be practised in the use of the spelling table by being made to spell his own name, or some word not in the vocabulary of the code.

A knowledge of the distance signals should be required of the candidate, their object, and the mode of signalling by the distant code, which will be found at the end of the Signal Book.

For this purpose two black balls, two black square flags, and two black pennants will be furnished with the frame board, and the candidates should be required to make one or two distant signals, and to read off one or two made by the Examiners.

The ball being the distinguishing symbol of the distant signal, any pennants or flags of the code may be employed in conjunction with it, irrespective of colour. The black pennants and flags are merely sent as showing best in the light background of the frame board.

The Examiners should be careful to ascertain that the candidate possesses a knowledge of the distress signals.

Semaphores.

We have as yet no semaphores on our coasts. The French, however, have a considerable number of such stations established on their coasts, and there are also similar stations on the coasts of Portugal, Italy, and other countries, at which the International Code of Signals *only* is used.

A plate at the end of the Signal Book explains the method by which the arms of the semaphore are made to represent by their position (up, down, or horizontal) the three symbols used for distant signalling, viz., a flag, a ball, or a pennant. Before making signals with the semaphore, the black disc with the white rim should be placed on the top of the semaphore mast, as it properly forms a part of the mast itself.

The International Code is used on board Her Majesty's ships, and it has been adopted by all the principal Maritime Powers for their Imperial as well as for their mercantile navies.

Note.—The International Code of Signals, with the Code List, is prepared by the Registrar General of Shipping and Seamen, and may be had of the publishers, Messrs. Spottiswoode & Co., 54, Gracechurch-street, London, and the principal booksellers at the various ports.

The Official Mercantile Navy List and Maritime Directory, published for the use of merchants, shipowners, shipbrokers, and others, may be obtained in like manner, price 12s.

APPENDIX E.

Regulations for preventing Collisions at Sea.

Notice.

THE Board of Trade have had their attention drawn to the necessity of a more strict examination of applicants for certificates of competency in their knowledge of the regulations for preventing collisions at sea.

In order that the rule of the road at sea may be better understood, and that a uniform system of examination may prevail, the Board of Trade have issued the following catechism.

This catechism has received the approval of the Trinity House and Admiralty in England, and of the Council of the Admiralty of France.

The Board of Trade attach very great importance to a thorough knowledge of the steering and sailing rules on the part of every applicant for a certificate of competency, and a thorough examination on the part of the Examiners.

All applicants for examination, whether for certificates as masters or mates, are to be examined as to their knowledge of the steering and sailing rules each time they present themselves for examination.

Questions suggested by the following heads of examination are to be asked in addition to, and are not to supersede, any other questions proper and necessary to be asked by the Examiner.

The following questions need not be adhered to literally by the Examiner, and are not all to be asked; but the substance of the leading questions should be asked, and all that are asked should be satisfactorily answered, before an applicant is reported to have passed his examination. The Examiner should make such a selection of the questions as each case appears to him to require.

Heads of Examination in the Regulations for Preventing Collisions at Sea.

1. What light or lights are required by the regulations to be exhibited by sailing vessels at anchor?

One light only; viz., a white light.

2. What light or lights are required by the regulations to be exhibited by steamships at anchor?

The same as for sailing vessels.

3. Where is the anchor light to be exhibited?

Where it can best be seen. It must, of course, be placed where there is the least possible chance of obstruction from spars, ropes, &c., &c.

4. To what height may the anchor light be hoisted?

It may be exhibited at any height where it can best be seen, not exceeding 20 feet above the deck.

5. What is the description of the lantern containing the anchor light required by the regulations?

A globular lantern of not less than eight inches in diameter.

6. In what direction or directions must the anchor light show?

It must show a clear, uniform, and unbroken light, visible all round the horizon.

7. At what distance must it be visible?

At least one mile.

8. What is the number of lights required by the regulations to be carried by sailing ships when under way at night?

Two side lights, and to have in readiness a white light or a flare-up light to show from their stern to any vessel overtaking them.

9. Of what colour are these lights, and how are they to be placed on board the ship?

A green light on the starboard-side, and a red light on the port side.

10. What description of light must be shown from the sides of sailing vessels under way; and over how many points of the compass, and in what directions, and how far, are they required to show?

Each light must be so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to two points abaft the beam on the starboard and port sides respectively; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

11. What lights are they to carry when being towed at night?

The same.

12. Are the side lights required to be fitted with screens; and if so, of what length, and how?

Yes, on the inboard side; at least three feet in length, measuring forward from the light. They are to be so fitted that a line drawn from the outside edge of the wick to the foremost end of the inboard screen shall make an angle of four degrees, or as near thereto as may be practicable, with a line drawn parallel with the keel of the ship from the outside edge of the wick.

13. What is the number of lights required by the regulations to be carried by steamships when under steam at night?

Three lights, and to have in readiness a white light or flare-up light to show from their stern to any vessel overtaking them.

14. Of what colour are these lights, and how are they to be placed on board the ship?

A white light on or in front of the foremast at a height above the hull of not less than 20 feet, and if the breadth of the ship exceeds 20 feet, then at a height above the hull not less than such breadth. A green light on the starboard side, and a red one on the port side.

15. Over how many points of the compass, in what direction and how far, is the fore mast-head light of a steamer required to show?

Over 20 points, viz., from right ahead to two points abaft the beam on both sides. It must be of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.

16. Are the side lights required to be fitted with screens; and, if so, of what length?

The green and red lights are to be fitted with screens on the inboard side, extending at least 3 feet forward from the light. They are to be so fitted that a line drawn from the outside edge of the wick to the foremost end of the inboard screen shall make an angle of four degrees, or as near thereto as may be practicable, with a line drawn parallel with the keel of the ship from the outside edge of the wick.

17. Over

17. Over how many points of the compass, in what directions, and how far, are the coloured side lights of steamers required to show?

The side lights must be so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass, on each side of the ship, *i.e.*, from right ahead to two points abaft the beam on the starboard and port sides respectively, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.

18. What description of lights are steamers required by the regulations to carry when they are not under steam, but under sail only?

Side lights only, the same as sailing vessels.

19. What exceptional lights are to be carried by small sailing vessels in certain cases?

Whenever, as in the case of small vessels during bad weather, the green and red side lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for use; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side.

To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the colour of the light they respectively contain, and shall be provided with proper screens.

20. What description of lights are pilot vessels required to carry when on their stations on pilotage duty?

A pilot vessel, when engaged on her station on pilotage duty, shall not carry the lights required for other vessels, but shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 15 minutes.

21. What description of lights are steam pilot vessels required to carry when on their stations on pilotage duty in British waters, and not at anchor?

A steam pilot vessel when engaged on her station on pilotage duty and in British waters, and not at anchor, shall, in addition to the lights required for all pilot vessels, carry at a distance of 8 feet below her white masthead light a red light visible all round the horizon on a clear night for at least two miles, and also the coloured side lights required to be carried by vessels under way.

22. What description of lights are steam pilot vessels required to carry when on their stations on pilotage duty in British waters, and at anchor?

A steam pilot vessel when engaged on pilotage duty in British waters and at anchor shall carry, in addition to the lights required for all pilot vessels, the red light 8 feet below her white light, but not the coloured side lights.

23. What description of lights are pilot vessels required to carry when not on their station on pilotage duty?

A pilot vessel, when not engaged on her station on pilotage duty, shall carry lights similar to those of other ships.

24. What lights are open boats and fishing vessels of less than 20 tons net register required to carry when under way and not actually engaged in fishing?

Open boats and fishing vessels of less than 20 tons net registered tonnage, when under way and when not having their nets, trawls, dredges, or lines in the water, shall not be obliged to carry the coloured side lights; but every such boat and vessel shall in lieu thereof have ready at hand a lantern with a green glass on the one side and a red glass on the other side, and on approaching to or being approached by another vessel such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side nor the red light on the starboard side.

25. What lights are fishing vessels and fishing boats of 20 tons net register, or upwards, required to carry when under way and not actually engaged in fishing?

They must carry similar lights to those of other ships when under way.

26. What lights are steam trawlers of 20 tons gross register, or upwards, whilst actually engaged in trawling, and not being stationary, required to carry?

All steam vessels engaged in trawling must carry either one of the two following arrangements of lights, whichever of the two may be the more convenient:—

(a.) The usual green and red side lights, and foremast head lights, similar to those carried by other steamships; or

(b.) They must carry on or in front of the foremast head, and in the same position as the white light which other steamships are required to carry, a lantern showing a white light ahead, a green light on the starboard side, and a red light on the port side; such lantern shall be so constructed, fitted, and arranged as to show an uniform and unbroken white light over an arc of the horizon of four points of the compass, an uniform and unbroken green light over an arc of the horizon of 10 points of the compass, and an uniform and unbroken red light over an arc of the horizon of 10 points of the compass, and

it shall be so fixed as to show the white light from right ahead to two points on the bow on each side of the ship, the green light from two points on the starboard bow to four points abaft the beam on the starboard side, and the red light from two points on the port bow to four points abaft the beam on the port side; and (2) a white light in a globular lanthorn of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon; the lanthorn containing such white light shall be carried lower than the lanthorn showing the green, white, and red lights as aforesaid, so, however, that the vertical distance between them shall not be less than 6 feet nor more than 12 feet.

27. What lights are sailing trawlers whilst actually engaged in trawling, and not being stationary, required to carry?

All sailing vessels, of whatever tonnage, whilst engaged in trawling must carry either one of the three following arrangements of lights, whichever of the three (a), (b), or (c), may be the most convenient:—

(a.) They may carry the green and red side lights similar to those of other sailing ships; or

(b.) They may carry on or in front of the foremast head a lanthorn having a green glass on the starboard side and a red glass on the port side, so constructed, fitted, and arranged that the red and green do not converge, and so as to show an uniform and unbroken green light over an arc of the horizon of 12 points of the compass, and an uniform and unbroken red light over an arc of the horizon of 12 points of the compass, and it shall be so fixed as to show the green light from right ahead to four points abaft the beam on the starboard side, and the red light from right ahead to four points abaft the beam on the port side; and (2) a white light in a globular lanthorn of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon; the lanthorn containing such white light shall be carried lower than the lanthorn showing the green and red lights as aforesaid, so, however, that the vertical distance between them shall not be less than 6 feet and not more than 12 feet; or

(c.) They may carry a white light in a globular lanthorn of not less than 8 inches in diameter, and so constructed as to show a clear uniform and unbroken light all round the horizon, and visible on a dark night, with a clear atmosphere, for a distance of at least 2 miles; and also a sufficient supply of red pyrotechnic lights which shall each burn for at least 30 seconds, and shall, when so burning, be visible for the same distance under the same conditions as the white light. The white light shall be shown from sunset to sunrise, and one of the red pyrotechnic lights shall be shown on approaching, or on being approached by, another ship or vessel in sufficient time to prevent collision.

28. What lights are vessels whilst actually engaged in drift net fishing required to carry?

All vessels when engaged in fishing with drift nets shall exhibit two white lights from any part of the vessel where they can be best seen. Such lights shall be placed so that the vertical distance between them shall be not less than 6 feet and not more than 10 feet; and so that the horizontal distance between them measured in a line with the keel of the vessel shall be not less than 5 feet and not more than 10 feet. The lower of these two lights shall be the more forward, and both of them shall be of such a character, and contained in lanterns of such construction as to show all round the horizon, on a dark night, with a clear atmosphere, for a distance of not less than three miles.

29. What lights are vessels whilst actually engaged in line fishing required to carry?

A vessel engaged in line fishing is required to carry the same lights as a vessel engaged in drift net fishing.

30. If a vessel, when fishing, becomes stationary in consequence of her gear getting fast to a rock or other obstruction, what signal must she make?

She must show the same light, and if a fog, mist, or falling snow prevail, she must make the same fog signal as if she were at anchor.

31. What lights are fishing vessels and open boats required to exhibit when at anchor?

Between sunset and sunrise they must exhibit a white light, visible all round the horizon at a distance of at least one mile, the same as any other vessel.

32. What sound signals are fishing vessels required to make while engaged in fishing in thick weather?

In fog, mist, or falling snow, a drift net vessel attached to her nets, and a vessel when trawling, dredging, or fishing with any kind of drag net, and a vessel employed in line fishing with her lines out, shall at intervals of not more than two minutes make a blast with her foghorn and ring her bell alternately.

33. May fishing vessels and open boats use flare-up lights, and, if so, at what part or parts of the vessel should they be exhibited?

Yes. Fishing vessels and open boats may at any time use a flare-up in addition to the lights which they are by this article required to carry and show. All flare-up lights exhibited by a vessel when trawling, dredging, or fishing with any kind of drag net shall be shown at the after part of the vessel, excepting that, if the vessel is hanging by the stern to her trawl, dredge, or drag net, they shall be exhibited from the bow.

34. Do these regulations referring specially to fishing vessels and boats apply in all parts of the world?

No; with the exception of the first paragraph of Article 10 of the regulations, they apply only to fishing vessels and boats when in the sea off the coast of Europe lying north of Cape Finisterre.

35. What lights are steamships required to carry when towing other ships?

A steamship, when towing another ship, shall, in addition to her side lights, carry two bright white lights in a vertical line one over the other, not less than three feet apart, so as to distinguish her from other steamships. Each of these lights shall be of the same construction and character, and shall be carried in the same position as the white light which other steamships are required to carry.

36. What light is a ship which is being overtaken by another required to show?

A ship which is being overtaken by another shall show from her stern to such last-mentioned ship a white light or a flare-up light.

37. Describe the lights, and the day signals, that vessels employed in laying or picking up a telegraph cable are required to carry?

A ship, whether a steam ship or sailing ship, employed in laying or in picking up a telegraph cable, shall at night carry in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over another, not less than six feet apart; the highest and lowest of these lights shall be red, and the middle light shall be white, and they shall be of such a character that the red lights shall be visible at the same distance as the white light. By day she shall carry in a vertical line one over the other, not less than six feet apart, in front of but not lower than her foremast head, three shapes not less than two feet in diameter, of which the top and bottom shall be globular in shape and red in colour, and the middle one diamond in shape and white.

38. Describe the lights and the day signals that vessels which from any cause are not under command are required to carry?

A ship, whether a steamship or a sailing ship, which from any accident is not under command, shall at night carry, in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three red lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over the other, not less than three feet apart, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles; and shall by day carry in a vertical line one over the other, not less than three feet apart, in front of but not lower than her foremast head, three black balls or shapes, each two feet in diameter.

39. Are the above-mentioned ships to carry side-lights?

The above ships, when not making any way through the water, shall not carry the side-lights, but when making way shall carry them.

40. What are the previous-mentioned shapes and lights intended to indicate to approaching ships?

These shapes and lights are to be taken by approaching ships as signals that the ship using them is not under command, and cannot, therefore, get out of the way.

41. Do these rules prevent squadrons and convoys from carrying special lights?

No. Nothing in these rules shall interfere with the operation of any special rules made by the Government of any nation with respect to additional station and signal lights for two or more ships of war, or for ships sailing under convoy.

42. What sound signals are steamships and sailing ships required by the regulations to be provided with?

A steamship shall be provided with a steam whistle or other efficient steam sound signal, so placed that the sound may not be intercepted by any obstructions, and with an efficient foghorn, to be sounded by a bellows or other mechanical means, and also with an efficient bell. A sailing ship shall be provided with a similar foghorn and bell.

43. When are these signals to be used?

In fog, mist, or falling snow, whether by day or night.

44. What sound signal is to be made by steamships and sailing ships when not under way?

A steamship and a sailing ship when not under way shall, at intervals of not more than two minutes, ring the bell.

45. What sound signal is required to be made by a steamship when under way?

A steamship under way shall make with her steam whistle, or other steam sound signal, at intervals, of not more than two minutes, a prolonged blast.

46. What sound signals are required to be made by sailing ships when under way?

A sailing ship under way shall make with her fog-horn, at intervals of not more than two minutes, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession.

47. Do the regulations require ships to take any other precaution during thick weather?

Yes. Art. 13 says every ship, whether a sailing ship or steamship, shall, in a fog, mist, or falling snow, go at a moderate speed.

48. Is it optional for a steamship to make any other signals with her steam whistle?

Yes, but only to vessels in sight, *i.e.*, not to vessels which are so obscured by fog, mist, or falling snow that they cannot be seen though their whistles may be heard.

Art. 19 provides that in taking any course authorised or required by the regulations, a steamship under way may indicate that course to any other ship which she has in sight by the following signals on her steam whistle, *viz.* :—

One short blast to mean "I am directing my course to starboard."

Two short blasts to mean "I am directing my course to port."

Three short blasts to mean "I am going full speed astern."

The use of these signals is optional; but if they are used, the course of the ship must be in accordance with the signal made.

49. What precaution is to be taken by steamers approaching another vessel?

If there is risk of collision, the steamer is to slacken speed, or, if necessary, stop and reverse.

50. If you see two white lights in a vertical line one over the other, what do they denote as regards the vessel carrying them?

They denote the presence of a steamer towing with her side lights not within sight on account of distance, fog, &c.; or a vessel end on to me engaged in drift net fishing, or in line fishing; or it may be a steam trawler end on, or within two points of being end on, to me.

51. If you see a green or a red light with a white light below, what do they denote?

They denote the presence of either a sailing or a steam vessel engaged in trawling.

52. If you see both the green and red lights with a white light below them, what do they denote?

They denote the presence of a sailing trawler coming end on to me.

53. If you see a white light alone, what does it denote as regards the ship carrying it?

It denotes the presence of a vessel or boat at anchor; or a pilot vessel on her station; or the mast-head light of a vessel, under steam, with her side lights not within sight on account of distance, fog, &c.; or a fishing vessel stationary through her gear getting fast to some obstruction, or a sailing trawler engaged in trawling (1) under one arrangement of lights heading so that her side lights are obscured (2) under another arrangement from the red pyrotechnic light not having been exhibited; or it may be a light shown from the stern of a vessel which is being overtaken.

54. If you see a green or a red light without a white light, or both a green and a red light without a white light, is the vessel carrying the light or lights seen, a vessel under steam or a vessel under sail?

A vessel under sail.

55. How do you know?

Because there is no white mast-head light.

56. If you see a white light over a coloured light, is the vessel a vessel under sail or a vessel under steam?

A vessel under steam. The mast-head light denotes that the vessel is under steam.

[The Examiner will then take one model of a vessel, which he will place on the table, and call it A. He will then take the mast or stand with a white and a red ball on it, and place it at the other end of the table, and call it B.

The Examiner should be careful that the model of one vessel only is used when the questions numbered 57 to 62 are asked.]

57. A is a steamer going north, seeing a white light and red light ahead at B. Are A and the vessel B showing the two lights meeting end on, or nearly end on, or is B passing A, or is B crossing the path of A, and in what direction, and how do you know?

Passing to port, because if I see a red light ahead, I know that the head of the vessel carrying

carrying that red light must be pointing away in some direction to my own port or left hand. The ship showing the red light has her port or left side more or less open to A.

58. If A. is going north, within what points of the compass must the vessel B. showing the white and red lights be steering?

B. must be going from a little W. of S. to W.N.W.

59. How do you know this?

Because, the screens being properly fitted, I could not see the red light of B. at all with the vessel's head in any other direction.

60. A. is a steamer going north, and seeing a white and green light ahead. Are A. and B. meeting, or is B. passing A., or is B. crossing the course of A., and in what direction; and how do you know?

B. is passing to starboard of A., because, if I see a green light ahead, I know that the head of the vessel carrying that green light must be pointing away in some direction to my starboard or right hand. The ship showing the green light has her right or starboard side more or less open to me.

61. As A. is going north, within what points of the compass must the vessel showing the white and green lights be steering?

B. must be going from a little E. of south to E.N.E.

62. How do you know?

Because, the screens being properly fitted, I cannot see the green light at all with the vessel's head in any other direction.

63. If a steamer A. sees the three lights of another steamer B. ahead, or nearly ahead, are the two steamers meeting, passing, or crossing?

Meeting end on, or nearly end on.

64. Do the regulations expressly require the course of a ship to be altered to starboard in any case; and, if so, when?

Yes; in the case of two steamers meeting end on, or nearly end on.

65. Do they expressly require the course of a ship to be altered to starboard in any other case; and, if so, in what other?

No. It is not in any other case expressly required by the regulations.

[The Examiner should see that the candidate put the models in the positions indicated by the Question 66, and following.]

66. If a steamer A. sees another steamer's red light B. on her own starboard side, are the steamers meeting, passing, or crossing, and how do you know?

Crossing, because the red light of one is opposed to the green light of the other; and whenever a green light is opposed to a red light, or a red light to a green light, the ships carrying the lights are crossing ships.

67. Is A. to stand on; and, if not, why not?

A. has the other vessel B. on her own starboard side. A. knows she is crossing the course of B., because she sees the red light of B. on her (A.'s) own starboard side. A. also knows she must get out of the way of B., because Article 16 expressly requires that the steamer that has the other on her own starboard side shall keep out of the way of the other.

68. Is A. to starboard or to port in such a case?

A. must do what is right, so as to get herself out of the way of B.: it is generally preferable to pass under a ship's stern rather than attempt to cross her bows, but it depends entirely on the position and relative speed of the two ships, and therefore the regulations wisely leave the giving way ship to get out of the way in any manner that may be most desirable, so always that she does get out of the way.

69. If A. gets into collision by porting, will it be because she is acting on any rule?

No; the rule does not require her either to port or to starboard. If she ports, and gets into collision by porting, it is not the fault of any rule.

70. If a steamer A. sees the green light of another steamer B. on her own (A.'s own) port bow, are the two steamers meeting, passing, or crossing; and how do you know?

Crossing, because the green light of one ship is shown to the red light of the other.

71. What is A. to do, and why?

By the rule contained in Article 22 of the regulations, A. is required to keep her course, subject only to the qualification that due regard must be had to all dangers of navigation; and that due regard must also be had to any special circumstances which may exist in any particular case rendering a departure from that rule necessary in order to avoid immediate danger. The crossing ship B. on A.'s port side must get out of the way of A., because A. is on B.'s starboard side.

72. A., a steamer, sees the green light of another steamer, B., a point on her, A.'s, port bow. Is there any regulation requiring A. to port in such a case, and, if so, where is it to be found?

There is not any.

73. Are steamships to get out of the way of sailing ships?

If a steamer and a sailing ship are proceeding in such direction as to involve risk of collision, the steamer is to get out of the way of the sailing ship unless the sailing ship is overtaking the steamer.

74. What is to be done by A., whether a steamer or a sailing ship, if overtaking B?

A. is to keep out of the way of B.

75. When by the rules one of two ships is required to keep out of the way of the other, what is the other to do?

To keep her course. This is absolutely necessary to enable the commander of the ship required by the regulations to keep out of the way, to act with decision and promptitude, which he cannot possibly, unless he knows what the other vessel is going to do.

76. Is there any qualification or exception to this?

Yes. Due regard must be had to all dangers of navigation, and to any special circumstances which may exist in any particular case, and require a departure from the regulations to avoid immediate danger.

77. Is there any general direction in the steering and sailing rules; and if so, what is it?

Yes, it is this: that nothing in the rules shall exonerate any ship, or the owner, master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

78. Can you repeat article (—) of the regulations? I refer to the article containing the rule for (—).

[The Examiner should repeat this question, naming a different article each time.]

79. What does the Act of Parliament provide as to the obligation of owners and masters in obeying the regulations respecting lights, fog signals, and steering and sailing?

Section 27 of "The Merchant Shipping Act Amendment Act, 1862," provides that owners and masters shall be bound to obey the regulations, and it also provides that in case of wilful default by the master or owner he shall be deemed to be guilty of a misdemeanor for each infringement.

80. What do breaches of the regulations imply?

If an accident happens through non-observance of the regulations, it implies wilful default on the part of the person in charge of the deck at the time, unless it is shown to the satisfaction of the court hearing the case that the special circumstances of the case rendered a departure from the rules necessary.

81. If collision ensues from a breach of the regulations, who is to be deemed in fault for the collision?

The person by whom the regulations are infringed, unless the court hearing the case decides to the contrary.

82. Is there any special rule for steamships navigating narrow channels?

In narrow channels every steamship shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which is on the starboard side of such ship.

83. Do the regulations apply to sea-going ships in harbours and in rivers?

Yes; unless there is any rule to the contrary made by a competent authority.

84. Do they apply to British ships only?

No, to foreign ships as well, with the exception of the Orders in Council of August 1892 and January 1893, which apply only to British vessels.

85. Do you know where the present regulations are to be found?

Yes, in the Orders in Council of the 11th August 1884, 30th December 1884, 24th June 1885, 18th August 1892, and 30th January 1893. Copies are given away on application to the Board of Trade.

86. Is one ship bound to assist another in case of collision?

Yes.

87. What is the penalty for default?

If the master or person in charge of the ship fails to render assistance without reasonable excuse, the collision is, in absence of proof to the contrary, to be deemed to be caused by his wrongful act, neglect, or default.

88. Is there any other penalty attached to not rendering assistance?

Yes. If it is afterwards proved that he did not render assistance, his certificate may be cancelled or suspended by the court investigating the case.

89. Is it not expected that you should understand the regulations before you take charge of the deck of a ship?

It is.

90. Why?

90. Why?

If I do not understand them and am guilty of default, the consequences will be very serious to me.

91. What would be a serious offence?

To cause a collision by porting the helm or doing anything not required by the regulations and without due consideration.

REGULATIONS for preventing Collisions at Sea.

ORDER in Council of 11th August 1884.

Preliminary.

Art. 1. In the following rules every steamship which is under sail and not under steam is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

Rules concerning Lights.

Art. 2. The lights mentioned in the following Articles, numbered 3, 4, 5, 6, 7, 8, 9, 10, and 11, and no others, shall be carried, in all weathers, from sunset to sunrise.

Art. 3. A sea-going steamship when under way shall carry—

- (a.) On or in front of the foremast, at a height above the hull of not less than 20 feet, and if the breadth of the ship exceeds 20 feet then at a height above the hull not less than such breadth, a bright white light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the ship; viz., from right ahead to two points abaft the beam on either side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least five miles.
- (b.) On the starboard side, a green light so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles.
- (c.) On the port side, a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side, and of such a character as to be visible, on a dark night, with a clear atmosphere, at a distance of at least two miles.
- (d.) The said green and red side lights shall be fitted with inboard screens projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow.

Art. 4. A steamship, when towing another ship, shall, in addition to her side lights, carry two bright white lights in a vertical line one over the other, not less than three feet apart, so as to distinguish her from other steamships. Each of these lights shall be of the same construction and character, and shall be carried in the same position, as the white light which other steamships are required to carry.

Art. 5. (a.) A ship, whether a steamship or a sailing ship, which from any accident is not under command, shall at night carry, in the same position as the white lights which steamships are required to carry, and, if a steamship, in place of that light, three red lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over the other, not less than three feet apart, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least two miles; and shall by day carry in a vertical line one over the other, not less than three feet apart, in front of but not lower than her foremast head, three black balls or shapes, each two feet in diameter.

(b.) A ship, whether a steamship or a sailing ship, employed in laying or in picking up a telegraph cable, shall at night carry in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over another, and not less than six feet apart; the highest and lowest of these lights shall be red, and the middle light shall be white, and they shall be of such a character that the red lights shall be visible at the same distance as the white light. By day she shall carry in a vertical line one over the other, not less than six feet apart, in front of but not lower than her foremast head, three shapes, not less than two feet in diameter, of which the top and bottom shall be globular in shape and red in colour, and the middle one diamond in shape and white.

(c.) The ships referred to in this Article, when not making any way through the water, shall not carry the side lights, but when making way shall carry them.

(d.) The lights and shapes required to be shown by this Article are to be taken by other ships as signals that the ship showing them is not under command, and cannot therefore get out of the way. The signals to be made by ships in distress and requiring assistance are contained in Article 27.

Art. 6. A sailing ship under way, or being towed, shall carry the same lights as are provided by Article 3 for a steamship under way, with the exception of the white light, which she shall never carry.

Art. 7. Whenever, as in the case of small vessels during bad weather, the green and the red side lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for use; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side nor the red light on the starboard side.

To make use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the colour of the light they respectively contain, and shall be provided with proper screens.

Art. 8. A ship, whether a steamship or a sailing ship, when at anchor, shall carry, where it can best be seen, but at a height not exceeding 20 feet above the hull, a white light, in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear uniform and unbroken light visible all round the horizon, at a distance of at least one mile.

Art. 9. A pilot vessel, when engaged on her station on pilotage duty, shall not carry the lights required for other vessels, but shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 15 minutes.

A pilot vessel, when not engaged on her station on pilotage duty, shall carry lights similar to those of other ships.

Art. 10. Open boats and fishing vessels of less than 20 tons net registered tonnage, when under way and when not having their nets, trawls, dredges, or lines in the water, shall not be obliged to carry the coloured side lights; but every such boat and vessel shall, in lieu thereof, have ready at hand a lantern with a green glass on the one side and a red glass on the other side, and on approaching to or being approached by another vessel such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side nor the red light on the starboard side.

The following portion of this Article applies only to fishing vessels and boats when in the sea off the coast of Europe lying north of Cape Finisterre:—

- (a.) All fishing vessels and fishing boats of 20 tons net registered tonnage, or upwards, when under way and when not required by the following regulations in this Article to carry and show the lights therein named, shall carry and show the same lights as other vessels under way.
- (b.) All vessels when engaged in fishing with drift nets shall exhibit two white lights from any part of the vessel where they can be best seen. Such lights shall be placed so that the vertical distance between them shall be not less than 6 feet and not more than 10 feet; and so that the horizontal distance between them measured in a line with the keel of the vessel shall be not less than 5 feet and not more than 10 feet. The lower of these two lights shall be the more forward, and both of them shall be of such a character, and contained in lanterns of such construction as to show all round the horizon, on a dark night with a clear atmosphere, for a distance of not less than three miles.
- (c.) A vessel employed in line fishing with her lines out shall carry the same lights as a vessel when engaged in fishing with drift nets.
- (d.) If a vessel when fishing becomes stationary in consequence of her gear getting fast to a rock or other obstruction, she shall show the light, and make the fog signal for a vessel at anchor.
- (e.) Fishing vessels and open boats may at any time use a flare-up in addition to the lights which they are by this Article required to carry and show. All flare-up lights exhibited by a vessel when trawling, dredging, or fishing with any kind of drag net shall be shown at the after part of the vessel, excepting that, if the vessel is hanging by the stern to her trawl, dredge, or drag net, they shall be exhibited from the bow.
- (f.) Every fishing vessel and every open boat when at anchor between sunset and sunrise shall exhibit a white light visible all round the horizon at a distance of at least one mile.
- (g.) In fog, mist, or falling snow, a drift-net vessel attached to her nets and a vessel when trawling, dredging, or fishing with any kind of drag net, and a vessel employed in line fishing with her lines out, shall at intervals of not more than two minutes make a blast with her fog-horn and ring her bell alternately.

Art. 11. A ship which is being overtaken by another shall show from her stern to such last-mentioned ship a white light or a flare-up light.

Sound Signals for Fog, &c.

Art. 12. A steamship shall be provided with a steam whistle, or other efficient steam sound signal, so placed that the sound may not be intercepted by any obstructions, and with an efficient fog-horn to be sounded by a bellows or other mechanical means, and also with an efficient bell.* A sailing ship shall be provided with a similar fog-horn and bell.

In fog, mist, or falling snow, whether by day or night, the signals described in this Article shall be used as follows; that is to say:—

- (a.) A steamship under way shall make with her steam whistle, or other steam sound signal, at intervals of not more than two minutes, a prolonged blast.
- (b) A sailing-ship under way shall make with her fog-horn, at intervals of not more than two minutes, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession.
- (c) A steamship and a sailing ship, when not under way, shall, at intervals of not more than two minutes, ring the bell.

Speed of Ships to be moderate in Fog, &c.

Art. 13. Every ship, whether a sailing-ship or steamship, shall, in a fog, mist, or falling snow, go at a moderate speed.

Steering and Sailing Rules.

Art. 14. When two sailing-ships are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other, as follows, viz.:—

- (a) A ship which is running free shall keep out of the way of a ship which is close-hauled.
- (b) A ship which is close-hauled on the port tack shall keep out of the way of a ship which is close-hauled on the starboard tack.
- (c) When both are running free with the wind on different sides, the ship which has the wind on the port side shall keep out of the way of the other.
- (d) When both are running free with the wind on the same side, the ship which is to windward shall keep out of the way of the ship which is to leeward.
- (e) A ship which has the wind aft shall keep out of the way of the other ship. •

Art. 15. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other.

This article only applies to cases where ships are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two ships which must, if both keep on their respective courses, pass clear of each other.

The only cases to which it does apply are, when each of the two ships is end on, or nearly end on, to the other; in other words, in cases in which, by day, each ship sees the masts of the other in a line, or nearly in a line, with her own; and by night, to cases in which each ship is in such a position as to see both the side lights of the other.

It does not apply by day to cases in which a ship sees another ahead crossing her own course; or by night, to cases where the red light of one ship is opposed to the red light of the other, or where the green light of one ship is opposed to the green light of the other, or where a red light without a green light, or a green light without a red light, is seen ahead, or where both green and red lights are seen anywhere but ahead.

Art. 16. If two ships under steam are crossing, so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

Art. 17. If two ships, one of which is a sailing-ship, and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing-ship.

Art. 18. Every steamship, when approaching another ship, so as to involve risk of collision, shall slacken her speed or stop and reverse, if necessary.

Art. 19. In

* In all cases where the regulations require a bell to be used, a drum will be substituted on board Turkish vessels.

Art. 19. In taking any course authorised or required by these regulations, a steamship under way may indicate that course to any other ship which she has in sight by the following signals on her steam whistle, viz. :—

One short blast to mean "I am directing my course to starboard";

Two short blasts to mean "I am directing my course to port";

Three short blasts to mean "I am going full speed astern."

The use of these signals is optional; but if they are used, the course of the ship must be in accordance with the signal made.

Art. 20. Notwithstanding anything contained in any preceding article, every ship, whether a sailing-ship or a steamship, overtaking any other shall keep out of the way of the overtaken ship.

Art. 21. In narrow channels every steamship shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such ship.

Art. 22. Where by the above rules one of two ships is to keep out of the way, the other shall keep her course.

Art. 23. In obeying and construing these rules, due regard shall be had to all dangers of navigation; and to any special circumstances which may render a departure from the above rules necessary, in order to avoid immediate danger.

No Ship, under any Circumstances, to neglect proper Precautions.

Art. 24. Nothing in these rules shall exonerate any ship, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

Reservation of Rules for Harbours and Inland Navigation.

Art. 25. Nothing in these rules shall interfere with the operation of a special rule, duly made by local authority, relative to the navigation of any harbour, river, or inland navigation.

Special Lights for Squadrons and Convoys.

Art. 26. Nothing in these rules shall interfere with the operation of any special rules made by the Government of any nation with respect to additional station and signal lights for two or more ships of war or for ships sailing under convoy.

* Art. 27. When a ship is in distress and requires assistance from other ships or from the shore, the following shall be the signals to be used or displayed by her, either together or separately; that is to say:

In the daytime—

1. A gun fired at intervals of about a minute;
2. The International Code signal of distress indicated by N C;
3. The distant signal, consisting of a square flag having either above or below it a ball or anything resembling a ball.

At night—

1. A gun fired at intervals of about a minute;
2. Flames on the ship (as from a burning tar barrel, oil barrel, &c.);
3. Rockets or shells, throwing stars of any colour or description, fired one at a time, at short intervals.

ORDERS in Council of 30th December 1884 and 24th June 1885.

ALTERNATIVE Lights for Trawlers when engaged in Trawling, having their Trawls in the Water, and not being Stationary.

1884.—Part I.—Steam Vessels of 20 Tons Gross Register Tonnage or upwards.

(1.) On or in front of the foremast head and in the same position as the white light which other steamships are required to carry, a lantern showing a white light ahead, a green light on the starboard side, and a red light on the port side, such lantern shall be so constructed, fitted, and arranged as to show an uniform and unbroken white light over an arc of the horizon of four points of the compass, an uniform and unbroken green light over an arc of the horizon of 10 points of the compass, and an uniform and unbroken red light over an arc of the horizon of 10 points of the compass, and it shall be so fixed as to show the white light from right ahead to two points on the bow on each side of the ship, the green light from two points on the starboard bow to four points abaft the beam on the starboard side, and the red light from two points on the port bow to four points abaft

abaft the beam on the port side ; (2) a white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon ; the lantern containing such white light shall be carried lower than the lantern showing the green, white, and red lights as aforesaid, so, however, that the vertical distance between them shall not be less than 6 feet and not more than 12 feet.

1884.—Part II.—Sailing Vessels of 20 Tons Net Register Tonnage or upwards.

(1) On or in front of the foremasthead a lantern having a green glass on the starboard side and a red glass on the port side, so constructed, fitted, and arranged that the red and green do not converge, and so as to show an uniform and unbroken green light over an arc of the horizon of 12 points of the compass, and an uniform and unbroken red light over an arc of the horizon of 12 points of the compass, and it shall be so fixed as to show the green light from right ahead to four points abaft the beam on the starboard side, and the red light from right ahead to four points abaft the beam on the port side ; and (2) a white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon ; the lantern containing such white light shall be carried lower than the lantern showing the green and red lights as aforesaid, so, however, that the vertical distance between them shall not be less than 6 feet and not more than 12 feet.

1885.—Sailing Trawlers of any Tonnage.

As regards sailing vessels engaged in trawling, such vessels having their trawls in the water and not being stationary in consequence of their gear getting fast to a rock or other obstruction, if they do not carry and show the lights required by Article 6 of the Regulations aforesaid, or the other lights of the description set forth in Part 2 of the Schedule to the Order in Council of the 30th of December 1884, shall carry and show in lieu of the lights required by Article 6 of the Regulations aforesaid, or the other lights of the description set forth in paragraph 2 of the Schedule to the Order, other lights as follows, that is to say :—

A white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon, and visible on a dark night with a clear atmosphere for a distance of at least two miles ; and also a sufficient supply of red pyrotechnic lights which shall each burn for at least 30 seconds, and shall, when so burning, be visible for the same distance under the same conditions as the white light. The white light shall be shown from sunset to sunrise, and one of the red pyrotechnic lights shall be shown on approaching, or on being approached by another ship or vessel in sufficient time to prevent collision.

ORDER in Council of 18th August 1892, modifying the Regulations contained in the Order in Council of the 11th August 1884, as regards the Lights to be carried by steam pilot vessels.—Addition to Article 9 :—A steam pilot vessel exclusively employed for the service of pilots licensed or certified by any pilotage authority or the committee of any pilotage district in the United Kingdom when engaged on her station on pilotage duty, and in British waters and not at anchor, shall in addition to the lights required for all pilot boats, carry at a distance of 8 feet below her white masthead light a red light visible all round the horizon, and of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least two miles, and also the coloured side lights required to be carried by vessels when under way.

When engaged on her station on pilotage duty and in British waters and at anchor, she shall carry, in addition to the light required for all pilot boats, the red light above mentioned, but not the coloured side lights.

When not engaged on her station on pilotage duty she shall carry the same lights as other steam vessels.

ORDER in Council of 30th January 1893.—Screening of Side Lights.—Addition to Article 3 :—(e) To ensure that the red and green side lights shall show an uniform light from right ahead of the ship to two points abaft the beam on the port and starboard sides respectively, and shall not show across the bow of the ship itself, the said lights must be fixed and the screens fitted so that the rays from the red and green lights shall cross the line of the ship's keel projected ahead of the ship at a reasonable distance ahead of the ship.

With regard to all vessels whose lights are inspected by the officers of the Board of Trade the red or green side light will not be deemed to be fixed and fitted in accordance with the Regulations, unless it is so fixed and screened that a line drawn from the outside edge of the wick to the foremost end of the inboard screen of such light shall make an angle of four degrees, or as near thereto as may be practicable, with a line drawn parallel with the keel of the ship from the outside edge of the wick.

AIDS to Memory in four verses, by the late Mr. *Thomas Gray*, C.B.

1. Two steam ships meeting :—
When both side lights you see ahead—
Port your helm and show your red.
2. Two steam ships passing :—
Green to green—or, red to red—
Perfect safety—go ahead!
3. Two steam ships crossing :—

Note.—This is the position of greatest danger; there is nothing for it but good look-out, caution, and judgment.

If to your starboard red appear,
It is your duty to keep clear;
To act as judgment says is proper :—
To port—or starboard—back—or, stop her.
But when upon your port is seen
A steamer's starboard light of green,
There's not so much for you to do,
For green to port keeps clear of you.

4. All ships must keep a good look-out, and steam ships must stop and go astern, if necessary :—

Both in safety and in doubt
Always keep a good look-out;
In danger, with no room to turn,
Ease her, stop her, go astern.

APPENDIX F.

DISTRESS and Pilot Signals.

M. S. Act, 1873.

The following sections, together with the Schedules referred to therein, of the "Merchant Shipping Acts Amendment Act, 1873," relate to signals of distress, and signals for pilots. (*See also* Order in Council of 11th August 1884—Regulations for Preventing Collisions at Sea. Article 27, page 42.)

Signals of distress.

18. The signals specified in the first Schedule to this Act shall be deemed to be signals of distress.

Any master of a vessel who uses or displays, or causes or permits any person under his authority to use or display, any of the said signals, except in the case of a vessel being in distress, shall be liable to pay compensation for any labour undertaken, risk incurred, or loss sustained in consequence of such signal having been supposed to be a signal of distress, and such compensation may, without prejudice to any other remedy, be recovered in the same manner in which salvage is recoverable.

Signals for pilots.

19. If a vessel requires the services of a pilot, the signals to be used and displayed shall be those specified in the second Schedule to this Act.

Any master of a vessel who uses or displays, or causes or permits any person under his authority to use or display, any of the said signals for any other purpose than that of summoning a pilot, or uses or causes or permits any person under his authority to use any other signal for a pilot, shall incur a penalty not exceeding 20*l*.

Power to alter rules as to signals.

20. Her Majesty may from time to time by Order in Council repeal or alter the rules as to signals contained in the schedules to this Act, or make new rules in addition thereto, or in substitution therefor, and any alterations in or additions to such rules made in manner aforesaid shall be of the same force as the rules in the said Schedules.

SCHEDULES.

SCHEDULE I.

(As subsequently amended by Order in Council of 11th August 1884.)

SIGNALS of Distress.

When a ship is in distress and requires assistance from other ships or from the shore, the following shall be the signals to be used or displayed by her, either together or separately; that is to say :—

In the daytime—

1. A gun fired at intervals of about a minute;
2. The international code signal of distress indicated by NC;
3. The distant signal, consisting of a square flag having either above or below it a ball, or anything resembling a ball.

At night—

1. A gun fired at intervals of about a minute;
2. Flames on the ship (as from a burning tar barrel, oil barrel, &c.);
3. Rockets or shells, throwing stars of any colour or description, fired one at a time, at short intervals.

SCHEDULE II.

SIGNALS to be made by Ships wanting a Pilot.

In the daytime.—The following signals, numbered 1 and 2, when used or displayed together or separately, shall be deemed to be signals for a pilot in the daytime, viz. :—

1. To be hoisted at the fore, the Jack or other national colour usually worn by merchant ships, having round it a white border, one-fifth of the breadth of the flag; or
2. The international code pilotage signal indicated by PT.

At night.—The following signals, numbered 1 and 2, when used or displayed together or separately, shall be deemed to be signals for a pilot at night, viz. :—

1. The pyrotechnic light commonly known as a blue light every 15 minutes; or
2. A bright white light, flashed or shown at short or frequent intervals just above the bulwarks, for about a minute at a time.

APPENDIX G.

EXAMINATION in Chart.

For all Grades where the Chart is used (including Examinations for Home Trade Passenger Ship Certificates).

[The candidate will be required to work out the following questions on either a “true” or “magnetic” chart,* whichever may be handed to him by the Examiner; and also determine whether the chart is a “true” or “magnetic” one, and whether it is for the northern or southern, and eastern or western hemisphere.]

1. Using deviation [card] [curve] † No. find the course to steer by compass from to ; also the distance.
 Answer.—Compass course .
 Distance .
 Variation .
 Deviation .

2. With the ship's head on the above-named compass course, a [point] [lighthouse] bore by compass and bore by the same compass, find the ship's position.
 Answer.—Latitude .
 Longitude .

3. With the ship's head as above, a [point] [lighthouse] bore by compass , and after continuing on the same course miles it bore , find the position of ship and her distance from at the time of taking the second bearing.

Answer.—Latitude .
 Longitude .
 Distance .

All the foregoing questions must be answered, but this does not preclude the Examiner from putting any other questions of a practical character or which the local circumstances of the port may require.

Additional questions for Masters (including Candidates for Home Trade Passenger Ship Certificates).

4. Find the course to steer by compass from to (see Question 1) to counteract the effect of a current which set at the rate of miles per hour, the ship making by log miles per hour; also the distance the ship would then make good in hours towards .

Answer.—Compass course .
 Distance .

* The terms “true” and “magnetic” are used for the sake of brevity and convenience, to indicate charts that have compasses delineated upon them showing the “true” or “magnetic” points of the compass respectively.

† A candidate for an ordinary master's certificate is expected to use either a card of deviations or a curve of deviations on a Napier's diagram, whichever the Examiner may think proper to put before him.

5. On being off took a cast of the lead, required the correction to be applied to the depth obtained by the lead line before comparing it with the depth marked on the chart.

6. What do you understand the small numbers to indicate that you see placed about the chart, and at what time of tide?

7. What do the roman numerals indicate that are occasionally seen on the chart near the coasts and in harbours?

8. How would you find, approximately, the time of high water at any place, the Admiralty tables not being at hand, nor any other special tables available?

All the foregoing questions, and those on form Exn. 9 C., must be answered, but this does not preclude the Examiner from putting any other questions of a practical character or which the local circumstances of the port may require.

APPENDIX H.

QUESTIONS relating to Cyclones or Revolving Storms common in Tropical Seas.

The candidate must answer in writing, on paper supplied to him by the Examiner, the following questions, numbering the answers to correspond with the questions.

Question—

1. The direction of the wind in a cyclone being* state the probable bearing of its centre from the ship in the* hemisphere.

2. And suppose that the wind during the passage of the same cyclone were found to change towards the*, what would be the ship's position with reference to the line of progression of the centre of the cyclone, and what action would you take?

3. Under what conditions would the change in the direction of the wind in the cyclone be the reverse of the above?

4. What are the usual indications of a ship being on the line of progression of the centre of a cyclone?

5. What are the usual indications that a ship is (a) approaching the centre of a cyclone; (b) receding from it?

6. Describe the track usually taken by cyclones in the† and state the seasons of the year in which they most frequently occur in that region.

APPENDIX I.

On and after the 1st January 1895 the following questions on the deviation of the compass will be substituted for those on form Exn. 7 at present in use, in the examination of candidates for certificates as masters of foreign-going ships.

DEVIATION of the Compass.

The applicant is to answer correctly at least 12 of such of the following questions as are marked with a cross by the Examiner.

The Examiner's attention is specially called to the importance of Questions 11, 12, 13, 14, and 39, which must be marked in all cases.

1. State briefly the essentials of an efficient compass.

2. State briefly the chief points to be considered when selecting a position for your compass on board ship, and what should be particularly guarded against.

3. What do you mean by deviation of the compass, and how is it caused?

4. Describe how you would determine the deviation of your compass: (1) by reciprocal bearings; (2) by figures on the dock walls; (3) by bearings of a distant object; (4) by the bearings of the sun or other celestial body.

5. Having determined the deviation with the ship's head on the various points of the compass, how do you know when it is easterly and when westerly?

6. Why is it necessary, in order to ascertain the deviations, to bring the ship's head in more than one direction?

7. For accuracy, what is the least number of points to which the ship's head should be brought for constructing a curve or table of deviations?

8. How would you find the deviation when sailing along a well-known coast.

9. Name some suitable objects by which you could readily obtain the deviation of the compass when sailing along the coasts of the Channel you have been accustomed to use.

10. Supposing you have no means of ascertaining the magnetic bearing of a distant object when swinging your ship for deviations, how could you find it, approximately from equi-distant compass bearings; and at what distance as a rule should the object be from the ship?

11. Having taken the following compass bearings of a distant object, find the object's magnetic bearing, and thence the deviation.

* These spaces to be filled in by the Examiners, and frequently varied.

† The Examiners to fill in whether North Atlantic, Bay of Bengal, China Seas, Indian Ocean, &c., &c.

MAGNETIC Bearing required :---

Ship's Head by Standard Compass.	Bearing of distant object by Standard Compass.	Deviation required.	Ship's Head by Standard Compass.	Bearing of distant object by Standard Compass.	Deviation required.
North	S. 4° E.		South	S. 15° E.	
N.E.	South.		S.W.	S. 23° E.	
East	S. 4° W.		West	S. 21° E.	
S.E.	S. 1° W.		N.W.	S. 11° E.	

12. With the deviation as above, construct a curve of deviations on a Napier's diagram and give the courses you would steer by the Standard Compass to make the following courses, correct magnetic.

Magnetic courses,

S.S.W. W.N.W. N.N.E. E.S.E.

Compass courses required.

13. Supposing you have steered the following courses by the Standard Compass, find the correct magnetic courses made from the above curve of deviations.

Compass courses,

W.S.W. N.N.W. E.N.E. S.S.E.

Magnetic courses required.

14. You have taken the following bearings of two distant objects by your Standard Compass as above; with the ship's head at W. $\frac{1}{2}$ S., find the bearings, correct magnetic.

Compass bearings,

W. by S. and N. $\frac{3}{4}$ W.

Magnetic bearings required.

15. Do you expect the deviation to change; if so, state under what circumstances?

16. How often is it desirable to test the accuracy of your table of deviations?

17. What is meant by variation of the compass; what is it caused by; and where can you find the variation for any given position?

18. The earth being regarded as a magnet, which is usually termed the blue, and which the red magnetic pole?

19. Which end of a magnet (or compass needle) is usually termed the red or "marked" end, and which the blue?

20. What effect has the pole of one magnet of either name on the pole of another magnet?

21. What is meant by transient induced magnetism?

22. Which is the red and which is the blue pole of a mass of soft vertical iron, by induction, and what effect would the upper and lower ends of it have on the compass needle (a) in the Northern hemisphere, (b) in the Southern hemisphere, (c) on the magnetic Equator?

23. Describe what is usually termed the sub-permanent* magnetism of an iron ship, and state when and how it is acquired, and which is the red and which is the blue pole, and why it is called sub-permanent magnetism?

24. Describe the meaning of the expression co-efficient A.

25. Describe the meaning of the expression co-efficient B, its signs and effects.

26. Describe the meaning of the expression co-efficient C, its signs and effects.

27. Describe the meaning of the expression co-efficient D, its signs and effects.

28. Describe the meaning of the expression co-efficient E, its signs and effects.

29. Would you expect any change to be caused in the error of your compass by the ship heeling over either from the effect of the wind or the cargo, &c.?

30. The compasses of iron ships being more or less affected by what is termed the heeling error, on what courses is this error usually at its minimum, and on what courses at its maximum?

31. Describe clearly the three principal causes of the heeling error on board ship?

32. State to which side of the ship in the majority of cases is the North point of the compass drawn when ship heels over in the Northern hemisphere.

33. Under what conditions (that is, as regards position of ship whilst building, and the arrangement of iron in the ship) is the North point of the compass needle usually drawn (windward or the high side of the ship in the Northern hemisphere, and if not allowed for, what effect has it on the assumed position of the ship when she is steering on Northerly also on Southerly courses in the Northern hemisphere?

34. Under what conditions (as in Question 33) is the North point of the compass needle usually drawn to leeward or the low side of the ship in the Northern hemisphere, and, if not allowed for, what effect would it have on the assumed position of the ship, when she is steering on Northerly, also on Southerly courses, in the Northern hemisphere?

* The term sub-permanent magnetism in these questions is used in the original sense as proposed by the late Sir G. B. Airy, to denote the character of the permanent magnetism of an iron ship as distinguished from the permanent magnetism of a magnetised steel bar. The terms "sub-permanent" and "permanent" throughout these questions may, therefore, be considered as synonymous.

35. The effects being as you state, on what courses would you keep away, and on what courses would you keep closer to the wind in the Northern hemisphere in order to make good a given compass course (a) when north point of compass is drawn to windward or the high side of ship; and (b) when drawn to leeward or the low side?

36. Does the same rule hold good in both hemispheres with regard to the heeling error?

37. State clearly how that part of the heeling error due to the permanent part of the magnetism of the ship varies as the ship changes her position on the globe, and what is the reason of this?

38. State clearly how that part of the heeling error due to the induction in transverse iron (which was horizontal when ship was upright) and iron vertical to the ship's deck, varies as the ship changes her position on the globe.

39. Your steering compass having a large error, show by "Beall's Compass Deviascope" how you would correct it by compensating magnets and soft iron (as usually practised by compass adjusters in the Mercantile Marine) in order to reduce the error within manageable limits. Show also how the heeling error can be compensated.

40. As the co-efficient B (capable of being corrected) usually consists of two parts, one due to the permanent magnetism of the ship, and the other to vertical induction in soft iron, how should each of the two parts, strictly speaking, be corrected when compensating the compass?

41. If the whole of co-efficient B be corrected by a permanent magnet, as is usually done, what is likely to ensue as the ship changes her magnetic latitude?

42. Provided the needles of your compass are not so long and powerful, and so near, as to cause the soft iron correctors to become magnetised by induction, would the co-efficient D, if properly compensated, be likely to remain so in all magnetic latitudes and both hemispheres. If so, state the reason why?

43. State at what distance, as a general rule, the magnets and soft iron correctors should be placed from the compass needles, and what will be the consequence if they are placed too near the needles?

44. Is it necessary that the magnets used for compensating co-efficients B and C should be placed on the deck? If not, state where they may also be placed, and the rules to be observed in placing them into position.

45. Can the compensation of the heeling error be depended upon when the ship changes her latitude. If not, state the reason?

APPENDIX K.

COMPASS Adjustment. Instruction to Examiners.

THE Board of Trade are advised that it is of the utmost importance that masters of ships should thoroughly understand the tentative method of compass adjustment as generally practised in merchant ships, and Examiners are therefore directed to fully satisfy themselves that all candidates for masters' certificates have this particular knowledge. It should be tested in connection with the form of examination, "Exn. 7," by aid of Captain Beall's Deviascope," by which they will be required to prove, (1) Their knowledge of the laws of deviation, and the tentative method of compass adjustment. (2) That they understand the practical application of the answers given by them to any of the other questions on form "Exn. 7," that the Examiner, in the course of the examination, may think fit to touch upon.

A concise statement of the present method of tentative compass adjustment is forwarded for the use of Examiners. The Board of Trade wish them, however, distinctly to understand that the Board are not in any way advocating the correction of that part of co-efficient B which arises from vertical induction in soft iron by a permanent magnet instead of by a soft iron bar. The Board have no authority to interfere with the methods in use amongst compass adjusters for the adjustment of compasses in iron ships, but instruct the Examiners to satisfy themselves that masters are acquainted with the ordinary method as at present practised.

THE Tentative Method of Compass Adjustment as generally practised by Compass Adjusters in Ships of the Mercantile Marine.

Before describing the practice, it will be as well to briefly state the co-efficients used to express the different magnetic forces:—

Co-efficient A represents a constant quantity.

Co-efficient B represents semicircular deviation due to fore and aft magnetic forces.

Co-efficient C represents semicircular deviation due to transverse magnetic forces.

Co-efficient D represents quadrantal deviation due to horizontal induction in soft iron.

Co-efficient E represents quadrantal deviation due to horizontal induction in soft iron unsymmetrically distributed.

SIGNS and EFFECTS of Co-efficients A, B, C, D, and E.

Co-efficient A represents a constant deviation of the same nature and amount, on all points of the compass; + A signifying easterly, and — A, westerly deviation.

Co-efficient + B represents an attraction towards the ship's head, and causes easterly deviations with ship's head in the eastern semicircle of the compass, and westerly deviations in the western semicircle, attaining a maximum value on the east and west points, decreasing to zero on north and south points, by compass.

Co-efficient — B represents an attraction towards the ship's stern, and causes easterly deviations with ship's head in the western semicircle, and westerly deviations with the ship's head in the eastern semicircle, with a maximum value on the east and west points decreasing to zero on the north and south points, by compass.

Co-efficient + C represents an attraction towards the starboard side of the ship, and causes easterly deviations with ship's head in the northern semicircle, and westerly deviations in the southern semicircle, attaining a maximum value on the north and south points, decreasing to zero on the east and west points, by compass.

Co-efficient — C represents an attraction towards the port side of the ship, and causes westerly deviations with ship's head in the northern semicircle, and easterly in the southern semicircle, attaining a maximum value on the north and south points, decreasing to zero on the east and west points by compass.

Co-efficient + D gives easterly deviations with ship's head between N. and E., and S. and W.; and westerly deviations between S. and E., and N. and W.

Co-efficient — D gives results exactly the reverse to + D.

Note.—Both + D and — D have a maximum value on the four quadrantal points, and become zero on the cardinal points by compass.

Co-efficient + E gives easterly deviations with ship's head between N.E. and N.W., and S.E. and S.W.; and westerly deviations between N.E. and S.E., and N.W. and S.W.

Co-efficient — E gives results exactly the reverse to + E.

Note.—Both + E and — E have a maximum value on the cardinal points, and become zero on the four quadrantal points, but are usually very small in amount in compasses placed in the middle line of the ship.

Heeling Error.—The heeling error arises partly from vertical induction in transverse iron, and iron vertical to the ship's deck, and partly from the vertical component of the sub-permanent magnetism of the ship. In the northern hemisphere, in the majority of cases, the N. point of the compass needle is drawn to windward or the high side of the ship, with, as a rule, a maximum heeling error on N. and S. points, and zero on E. and W. points by compass. If the compass is not properly placed in the ship there may be a sensible heeling deviation on E. and W. courses.

TENTATIVE CORRECTIONS.

To correct co-efficient C.—With ship's head north or south, magnetic, place a bar magnet (or more than one if necessary) horizontally and exactly athwartship, either on the deck or on any convenient platform, with its centre on the fore and aft line passing through the centre of the compass card, placing its red or marked end to starboard if the N. point of the needle deviates to the starboard side, or to port if it deviates to the port side of the ship, moving the magnet to or from the compass until it points correctly.

Note.—The deviation represented by co-efficient C varies inversely as the earth's horizontal force, providing the iron is symmetrically arranged on each side of the compass.

To correct co-efficient B.—With ship's head east or west, magnetic, place a bar magnet (or more than one if necessary) horizontally and exactly parallel to the fore and aft midship line of the ship, either on the deck or on any convenient platform, with its centre on the athwartship line passing through the centre of the compass, the red or marked end of the magnet being directed aft if the N. point of the compass needle deviates towards the stern, or forward if it deviates towards the bow, moving the magnet to or from the compass until it points correctly.

Note.—The co-efficient B consists of two parts; one is due to the permanent magnetism of the ship, which varies inversely as the earth's horizontal force; the other to vertical induction in soft iron, which varies as the tangent of the dip. As ships in the merchant service are rarely built with a view of providing a satisfactory position for the standard compasses, it is very difficult in many ships to find a position for it where it will not be affected by vertical iron. It follows, therefore, that if this deviation be compensated, as is customary, by a fore and aft permanent magnet instead of by a vertical soft iron bar, the poles of the magnet may in some cases require to be reversed in high southern latitudes.

To correct co-efficient + D.—With ship's head on one of the quadrantal points, magnetic, the + D is generally corrected by boxes of small chain, cylinders of soft iron, or soft iron globes, placed athwartships on the same level, and at equal distances, on the

port and starboard sides of the compass, with the centre of their mass on a level with the compass needle, move them to or from the compass till the needle points correctly.

To correct co-efficient — D.—Co-efficient — D, which is of very rare occurrence, is corrected by placing the above correctors on the fore and aft sides of the compass.

Note.—When once the co-efficient D is properly corrected by soft iron it is correct for all magnetic latitudes, provided the distribution of the iron in the ship is not materially changed, and provided the magnetism of the soft iron has not been affected by the compass needles. With short needles having small magnetic power, such, for instance, as Sir William Thomson's, there will probably be no change; but when the needles are long and powerful, one half the original D may be expected to return when approaching the magnetic equator. See "Admiralty Manual," 1882, page 96, as follows: "When a compass with long and powerful needles is employed, soft iron correctors placed very near it become magnetised by induction according to the power of the needles, and the resulting correction will not remain strictly perfect in all latitudes."

To correct Heeling Error.—The heeling error is corrected for any given magnetic latitude by placing a vertical magnet exactly under the centre of the compass card, with its N. or red pole uppermost if the heeling error is to windward or to the high side of ship, or its S. or blue end uppermost if to leeward or to the low side of ship, moving the magnet to or from the compass until the heeling error is corrected.

Note.—The heeling error due to the permanent part of the magnetism varies inversely as the earth's horizontal force, and consequently is greatest in high latitudes, diminishes as the ship approaches the magnetic equator, and increases again, still retaining the same name, as the ship recedes from the magnetic equator in the southern hemisphere. The heeling error due to transverse and vertical soft iron decreases as the ship approaches the magnetic equator, where it is zero, and is of a contrary name in the southern hemisphere. It is probable that the poles of the vertical magnet may require to be reversed in high southern latitudes.

A divided scale should be marked or fitted outside the tube or some other convenient place, so as to show the proper position for the correcting magnet as found in any given magnetic latitude, and the same recorded as a guide for approximately placing the magnet in position on any subsequent voyage in the same locality, and especially on the return of the ship to the United Kingdom.

Candidates should understand that the object of tentative adjustment is to bring the deviations within manageable limits, and also to equalise the directive force of the needle as far as is practicable on all courses; but no system of adjustment whatever is sufficiently reliable in character to absolve the navigator from the necessity of using every precaution, and especially of ascertaining the deviation on every available opportunity by observations of the sun by day and the other heavenly bodies by night.

APPENDIX L.

SYLLABUS of Examination in the Laws of the Deviation of the Compasses of an Iron Ship, and in the Means of compensating or correcting it.

From the 1st January 1895 the following Syllabus will be substituted for the one at present in use in the examination of all candidates for the voluntary examination in compass deviation and for extra master's certificates. Candidates will be required to give correct written answers to at least 40 of the questions; these will be marked by a cross by the Examiner. They will also be required to prove by "Beall's Compass Deviascope" (1) their knowledge of the tentative method of compass adjustment, and (2) that they really possess a good knowledge of what they have written, by showing on the deviascope that they are acquainted with the practical application of the same, or of any other questions in the syllabus that the Examiner in the course of the examination may think proper to touch upon. Questions 31, 61, 62, 69, 70, 72, and 92, will be marked by the Examiner in all cases. The other questions will be *constantly* varied.

1. Describe an artificial magnet, and how a steel bar or needle is usually magnetised.
2. Which end of the compass needle, or a magnet, is commonly termed the red, and which the blue pole?
3. Which is the red magnetic pole of the earth, and which the blue; and give their geographical positions?
4. What effect has the pole of one magnet of either name on the pole of the same name of another magnet, and what would be the consequence of the pole of one magnet of either name being brought near enough to affect the pole of contrary name, if in these cases both magnets were freely suspended?
5. By applying this law to all magnets, natural as well as artificial, describe what would be the result on a magnetic bar or needle, freely suspended, but by weight or by the nature of its mounting constrained to preserve a horizontal position; and what would be the result, if so mounted, but free to move in every direction; the earth being regarded as a natural magnet?
6. What is the cause of the variation of the compass?
7. What is meant by the deviation of the compass?

8. What

8. What is meant by the term "local attraction;" under what circumstances have ships' compasses, from recent careful investigation, been found to be affected by it, and name some of the localities in different parts of the world where this disturbance is to be found, and consequently where increased vigilance is necessary [see Appendix, "Evan's Elementary Manual," 1888].

9. What do you understand by the term "soft" iron; and what are its properties as regards acquiring and retaining magnetism?

10. What do you understand by the term "hard" iron; and what are its properties as regards acquiring and retaining magnetism?

11. Describe the meaning of the term "horizontal force" of the earth; where is it the greatest, and where the least, and what effect has it in respect to the increase or decrease of the directive force of the compass needle?

12. Does the magnetic equator coincide with the geographical equator; if not, state clearly how it is situated?

13. Where can the values of the magnetic dip, the earth's horizontal force, and the variation, be found?

14. State in what parts of the globe lying in the usual tracks of navigation the variation changes very rapidly, and what special precautions should be observed when navigating these localities; also why a "variation" chart is then very useful?

15. Why is a knowledge of the magnetic dip, and the earth's horizontal force important in dealing with compass deviations?

16. Describe the meaning of the term "vertical force" of the earth; where is it the greatest and where the least?

17. Would you expect a compass to be the more seriously affected by any given disturbing force when near the magnetic equator, or near the poles? and state the reason.

18. State briefly (a) the essentials of an efficient compass; and (b) what you would consider a good arrangement of the needles (that is—whether long or short, single or double, &c.) with the view to good compensation.

19. In stowing away spare compass cards or magnets, how would you place them with regard to each other, or what might be the probable consequence?

20. State briefly the chief points to be considered when selecting a position for your compass on board ship, and what should be particularly guarded against?

21. What is meant by transient induced magnetism?

22. Which is the *red* and which the *blue* pole of a mass of soft vertical iron (or indeed of any soft iron not in a horizontal position) by induction, and what effect would the upper and lower ends of it have on a compass in the *Northern* hemisphere?

23. Which is the red and which the blue pole of a mass of soft vertical iron by induction, and what effect would the upper and lower ends of it have on the compass needle in the *Southern* hemisphere?

24. What effect would a bar of soft vertical iron have on the compass needle on the magnetic equator?

25. Describe what is usually termed the sub-permanent* magnetism of an iron ship, and state when and how it is acquired, and which is the sub-permanent red and which is the blue pole, and why it is called sub-permanent magnetism.

26. What is meant by "the composition of forces" and "the parallelogram of forces," and show how the knowledge of these is valuable in ascertaining and compensating the sub-permanent magnetism of an iron ship?

27. Describe the nature of the co-efficients B and C plus (+), and minus (—), and the different magnetic forces they represent; also why they are said to produce semicircular deviations.

28. Can semicircular deviations be produced by any other force than the sub-permanent magnetism of the ship? If so, by what?

29. On what points, by compass bearings of the ship's head does + B give westerly deviation, and on what points does it give easterly; also on what points does — B give westerly, and on what points easterly?

30. On what points does + C give westerly deviation, and on what points easterly; also on what points does — C give westerly, and on what points easterly deviation?

31. The value of either co-efficient B or C being given, also the magnetic direction of the ship's head while she was being built, determine by the traverse tables the approximate value of the other co-efficient C or B; and the value of both these co-efficients being given, determine approximately the direction by compass of the ship's head whilst being built, assuming, of course, that these co-efficients resulted altogether from sub-permanent magnetism.

32. Would you expect the greatest disturbance of the needle from the effects of sub-permanent magnetism alone to take place when ship's head is in same direction as when building, or when her head is at right angles to that direction, and in what direction of the ship's head would you expect to find the least disturbance?

33. Describe

* The term "sub-permanent" magnetism in the syllabus is used in the original sense, as proposed by the late Sir G. B. Airy, to denote the character of the permanent magnetism of an iron ship as distinguished from the permanent magnetism of a magnetised steel bar. The terms "sub-permanent" and "permanent" throughout the syllabus may, therefore, be considered as synonymous.

33. Describe quadrantal deviation, and state what co-efficients represent it; also on what points of the ship's head, by compass, each of these co-efficients gives the greatest amount of deviation, and why it is called quadrantal deviation?

34. On what points of the compass will each of the co-efficients, D and E + and —, give easterly, and on what points westerly deviation?

35. What conditions of the iron of a ship will produce + D and what — D?

36. State clearly, then, which end of horizontal iron running athwartship (such as beams, &c.), and of horizontal iron running fore and aft of a ship, acquires *red* and which *blue* polarity, by induction, when ship's head is at N.E., S.E., S.W., and N.W. respectively.

37. Describe the nature of the deviation represented by co-efficients + A and — A, and describe the errors in the construction of the compass, and other causes, that frequently produce it.

38. What is the object of compensating the compass by magnets, &c., and what are the general advantages of a compensated compass over an uncompensated one?

39. Before adjusting the compass of an iron ship, what is it desirable to do with the view to eliminating, as far as possible, what may be termed the unstable part of the magnetism of the ship?

40. Describe clearly the tentative method of compass adjustment (that is, the compensation of co-efficients B, C, and D, with ship upright) as generally practised by compass adjusters in ships of the mercantile marine.

41. State at what distance, as a general rule, the magnets and soft iron correctors should be placed from the compass needles, and what will be the consequence if they are placed too near the needles.

42. Is it necessary that the magnets used for compensating co-efficients B and C should be placed on the deck? If not, state where they may also be placed, and the rules to be observed in placing them into position.

43. Does the B found on board ship usually arise altogether from sub-permanent magnetism, or does part of it usually arise from some other cause or causes?

44. If the part of B due to induced magnetism in vertical soft iron, as well as the part due to sub-permanent magnetism, are corrected by a magnet alone, as is generally the case, what is frequently the consequence on the ship changing her magnetic latitude and hemisphere?

45. How should each of these two parts of B then, strictly speaking, be compensated?

46. Assuming, for the sake of clearness, that your steering compass is unavoidably placed very near to the head of the stern post (and other vertical iron at the stern), thereby causing a very large — B from induced magnetism; describe briefly any method by which the approximate position for the compensating vertical iron bar (Flinder's or Rundell's) could be estimated in order to reduce the error; describe also how you would proceed, in order to improve, if not to perfect, its position after observations have been made on the magnetic equator.

47. State of standard compasses, as well as steering compasses, are generally subject to this disturbance from induced magnetism in vertical iron; also whether the attraction in all cases is found to be towards the stern; and if not, state the conditions under which it might be toward the bow, and how the compensating soft iron bar should then be placed.

48. Generally speaking, does the magnetism induced in vertical iron usually have any effect in producing the co-efficient C, ship upright, or is it generally produced by sub-permanent magnetism alone? State also your reasons for saying so.

49. Provided the needles of your compass are not so long and powerful, and so near, as to cause the soft iron correctors to become magnetised by induction, would the co-efficient D if properly compensated as you have described (Ans. 40) be likely to remain so in all latitudes and both hemispheres? If so, state the reason why.

50. Under what circumstances does the character of A and E so change as to render it desirable that these co-efficients should be disregarded or modified?

51. Supposing your compasses were allowed to remain uncompensated, explain clearly what would be the probable changes (ship upright) in the deviations produced separately, by (1) the sub-permanent magnetism of the ship alone (2) by the induced magnetism in vertical soft iron; (a) on reaching the equator (b) in the southern hemisphere?

52. Assuming you were able to arrive at the proper proportions to be corrected, and were then to exactly compensate the sub-permanent magnetism of the ship by means of a permanent magnet, and the induced magnetism in vertical iron by a soft iron bar, would you expect any deviation to take place in your compass as the ship changed her latitude and hemisphere? And state your reasons for saying so.

53. Supposing the co-efficient D from horizontal soft iron were allowed to remain uncompensated, would you, or would you not, expect the D to differ in name or amount on the ship changing her magnetic latitude, and hemisphere? And state the reason.

54. Describe how you would determine the deviation of your compass (1) by reciprocal bearings (2) by figures on the dock walls (3) by bearings of a distant object.

55. Describe, in detail, how you would determine the deviation of your compass by the bearings of the sun. Also by a star or planet.

56. Describe the uses to which the Napier's diagram can be applied, and its special advantages.

57. Describe clearly how the Napier's diagram is constructed.

58. For

58. For accuracy, what is the least number of points to which the ship's head should be brought for constructing a complete curve of deviations, or a complete table of deviations?

59. Nearing land, and being anxious to check your deviations on a few courses you may probably require to steer, what is the least number of points it would be necessary to steady the ship's head upon, if making use of a Napier's diagram, in order to ascertain the deviation on each of the points, say in a quadrant of a compass? and describe clearly how you would do this at sea.

60. Supposing you have no means of ascertaining the magnetic bearing of the distant object when swinging your ship for deviations, how could you find it, approximately, from equi-distant compass bearings; and how far, as a rule, should the object be from the ship when swinging, or steaming round?

61. Having taken the following equi-distant compass bearings of a distant object, find the object's magnetic bearings, and thence the deviations:—

(a) Magnetic bearing required:—

Ship's Head by Standard Compass.	Bearing of Distant Object by Standard Compass.	Deviation required.	Ship's Head by Standard Compass.	Bearing of Distant Object by Standard Compass.	Deviation required.
North.	⁰ S. 75 W.		South.	⁰ S. 34 W.	
N.E.	S. 64 W.		S.W.	S. 31 W.	
East.	S. 56 W.		West.	S. 49 W.	
S.E.	S. 50 W.		N.W.	S. 71 W.	

(b) Construct a curve of deviations on a Napier's diagram, with the deviations as above, and give the courses you would steer by the standard compass to make the following courses, correct magnetic.

Magnetic courses, N.N.W. S.S.E. W.N.W. E.S.E.

Compass courses required.

(c) Supposing you have steered the following courses by the standard compass, find the correct magnetic courses made from the above curve of deviations.

Compass courses, N.N.E. E.N.E. S.S.W. W.S.W.

Magnetic courses required.

(d) You have taken the following bearings of two distant objects by your standard compass as above; with the ship's head at N.E. $\frac{1}{2}$ E., find the bearings, correct magnetic.

Compass bearings, S.E. by S. and N.N.W.

Magnetic bearings required.

62. Assuming the deviations observed with ship's head by compass to be as follow [or as in question 61, whichever may be given], determine the value of the co-efficients A, B, C, D, and E, and from them construct a complete table of deviations (or for as many points as the Examiner may direct).

Deviation at North	[	]	South	[	]
N.E.	[	]	S.W.	[	]
East	[	]	West	[	]
S.E.	[	]	N.W.	[	]

63. When swinging your ship, if it be required to construct deviation tables for two or more compasses situated in different parts of the vessel, describe the process, and how you would employ the Napier's diagram for this purpose.

64. State your rule for determining whether deviation is easterly or westerly.

65. Is a knowledge of the value of the various co-efficients of any advantage? If so, state why?

66. Describe (a) what is commonly known by the term "retentive" or "retained" magnetism, and how the ship acquires it when in port and at sea; (b) its effect on the compass needle whilst ship's head continues in the same direction; (c) the immediate consequence when the direction of the ship's head is altered; and (d) the special precautions to be invariably observed at sea on the alteration of the ship's course.

67. Describe a "Dumb-card" or "Pelorus," and its use (a) in compensating a compass, (b) in determining the deviation.

68. If you determine the deviation by an azimuth or an amplitude of a heavenly body, it is then combined with variation, which together is sometimes called the *correction* for the compass. State when the deviation is the difference between the variation and the *correction*, and when the sum; and when it is of the same name as that of the *correction*, and when of the contrary name.

69. In observing azimuths of heavenly bodies, the best method is by "time azimuths," since these can be observed without an altitude when the ship is in port, or when the

horizon cannot be defined from any cause. Given the sun's declination, the hour of the day, and the latitude to find the true bearing of the sun.*

70. By night, if it be desirable to observe the *correction* of the compass. Given the day of the year, and time at ship, also the latitude of the place, to determine what stars will be in good position for this purpose.

71. If your correcting magnets are so mounted that their positions can be altered, describe the process by which, on open sea, you can place the ship's head correct magnetic N. (or S.), and correct magnetic E. (or W.), and can make the correction perfect.

72. Given the name of a star, the time, the place of ship, the variation of the compass, and the bearing of the star by compass. Determine the deviation, and name it east or west.

73. Would you expect any change to be caused in the error of your compass by the ship heeling over either from the effect of the wind or the cargo?

74. Describe clearly the three principal causes of the heeling error on board an iron ship.

75. Towards which side of the ship would that part of magnetism induced in continuous transverse iron (which was horizontal while ship was upright) help to draw the north point of the needle when ship heels over (*a*) in the Northern hemisphere, (*b*) in the Southern hemisphere?

76. Supposing the compass were placed between the two parts of a divided beam or other athwartship iron, towards which side of the ship would iron so situated help to draw the North point of the needle when ship heels over (*a*) in the Northern hemisphere, (*b*) in the Southern hemisphere?

77. Would you expect that part of the magnetism induced in iron exactly perpendicular to the ship's deck, such as stanchions, bulkheads, &c., if below the compass, to cause any part of the heeling error when ship heels over; and if so, towards which side of the ship (*a*) in the Northern hemisphere, (*b*) in the Southern hemisphere?

78. If an ordinary standard compass placed higher than the iron top sides be compensated whilst the ship is upright, what co-efficient will be affected by heeling?

79. Under what conditions (that is, as regards position whilst building and the arrangement of iron in the ship) is the north point of the compass needle usually drawn to windward, or the high side of the ship, in the Northern hemisphere?

80. Under what conditions, as a rule, is the north point of the compass needle usually drawn to leeward, or the low side of the ship, in the Northern hemisphere?

81. State to which side of the ship, in the majority of cases, is the north point of the compass drawn when ship heels over in the Northern hemisphere; and when this is the case, and it is not allowed for, what effect has it on the assumed position of the ship when she is steering on northerly, and also on southerly courses?

82. On what courses would you keep away, and on what courses would you keep closer to the wind in both the Northern and Southern hemispheres in order to make good a given compass course (*a*) when north point of compass is drawn to windward, or the high side of ship, and (*b*) when drawn to leeward, or the low side?

83. If a ship is beating to windward; when she tacks, under what circumstances will the heeling error retain the same name, and under what circumstances will it take the contrary name?

84. If a ship is placed on the opposite tack by the change of wind, the ship's course being the same by compass, will the heeling error change its name?

85. In which direction of the ship's head does the heeling error attain its maximum value, and in which direction does it generally vanish?

86. Explain clearly how that part of the heeling error due to the permanent part of the magnetism of the ship varies as the ship changes her geographical position, and what is the reason of this?

87. Explain clearly how that part of the heeling error due to the induction in transverse iron (which was horizontal when ship was upright), and iron vertical to the ship's deck, varies as the ship changes her geographical position.

88. What, then, would be the probable nature of the heeling error, that is, whether to high or low side of the ship, and whether the error would be equal to the sum or difference, &c., of the forces given (1) in high north latitudes, (2) on magnetic equator, (3) in high south latitudes? Assuming the polarity of the sub-permanent magnetism of the ship under, and affecting, the compass, to be as given below; the vertical induction in soft iron, of course, obeying the ordinary laws in the above geographical positions (1), (2), (3).

(*a*) In cases where the effect of *red* vertical sub-permanent magnetism is equal to that of the vertical induction in the soft iron of the ship.

(*b*) Where the effect of *red* vertical sub-permanent magnetism is greater than that of the vertical induction in the soft iron.

(*c*) Where the effect of *red* vertical sub-permanent magnetism is less than that of the vertical induction in the soft iron.

(*d*.) Where

* The process of finding time azimuths by the ordinary formulæ of spherical trigonometry is tedious, and since on board an iron ship these observations should be often repeated, the candidate will be allowed to use any table or graphic or linear method that will solve the problem within a half of a degree, the altitude of the heavenly body not being given.

(d) Where the effect of *blue* vertical sub-permanent magnetism is equal to that of the vertical induction in the soft iron.

(e) Where the effect of *blue* vertical sub-permanent magnetism is greater than that of the vertical induction in the soft iron.

(f) Where the effect of *blue* vertical sub-permanent magnetism is less than that of the vertical induction in the soft iron.

89. Can the heeling error be compensated? If so, state the means to be employed, and how the compensation may be effected.

90. Can the compensation of the heeling error be depended on in every latitude? If not, state the reason.

91. Do the soft iron correctors used for compensating the co-efficient + D have any effect on the compass needle when the ship heels over, and if so do they draw the needle towards the low or the high side of the ship, and do they counteract, or otherwise, the effect produced by the vertical induction in the soft iron; (a) in the northern hemisphere (b) in the southern hemisphere; and what is the reason of this?

92. Given the heel, the direction of the ship's head by compass, and the heeling error observed, to find the approximate heeling error, with a greater or less given heel, and with the ship's head on some other named point of the compass, the ship's magnetic latitude being in both cases the same.

93. Describe any instrument to show the ship's heel (generally called a clinometer), and state how and where it should be fixed.

94. Should the clinometer be observed when the ship is swung to determine the deviation when the ship is upright? If so, state the reason why.

95. Would you expect the table of deviations supplied by the compass adjuster from observations made in swinging the ship to remain good during the voyage, or would you expect the deviations to change? If so, state under what circumstances.

96. Is it desirable that a record of your observations for deviation should be kept as a guide for any subsequent voyage in case the ship should be in the same locality, or for further correction of the compass? If so, describe some suitable form for keeping such record.

97. Would you under any circumstances consider it a safe and proper procedure to place implicit confidence in your compasses, however skilfully they may have been adjusted? If not, what precautions is it your duty to take at all times?

APPENDIX M.

DEVIATION of the Compass (for Masters' Certificates for Home Trade Passenger Ships.)

[The Applicant must answer in writing, on paper given him by the Examiner, all the following questions, numbering his answers to correspond with the numbers of the questions.]

1. When taking a meridian altitude, how do you know when the sun is on the meridian; or, in other words, when it is noon?

2. How does the sun bear (*true*) when on the meridian of an observer in these latitudes (home trade limits)?

3. What do you mean by deviation of the compass, and how is it caused?

4. Having determined the deviation, how do you know when it is easterly, and when westerly?

5. Supposing the sun when on the meridian bore by your compass what would be the deviation of that compass for the direction of the ship's head at the time, the variation given on the chart being _____?

6. How could you find the deviation of your compass when in port, or when sailing along a coast?

7. Name some suitable objects by which you could readily obtain the deviation of your compass when sailing along the coasts of the channel you have been accustomed to use?

8. The bearing of two objects when in a line with each other was found on the chart to be _____ magnetic; but when brought in a line on board they bore _____ by your compass; required the deviation of your compass for the direction of the ship's head at the time?

9. What means are there for checking the deviation of your compass by night?

10. Supposing the North Star (*Polaris*) bore _____ by your compass, what would be the deviation (approximately) of that compass for the direction of the ship's head at the time, supposing the variation given on the chart to be _____?

11. Do you expect the deviation to change? If so, state under what circumstances.

12. What is meant by variation of the compass, and what is the cause of it?

APPENDIX N.

PARTICULARS of Examination in Sumner's Method by Projection.

CANDIDATES are required to compute their longitudes by chronometer worked with two assumed latitudes.

They are to mark off on the chart the two positions ascertained by the first altitude, and are then to connect them with a straight line, termed the *line of position*, or the line of equal altitude, which will show the bearing of any land it may intersect.

They will then be required to correct the first *line of position* for the ship's change of station, in the interval between the two observations, to project the *line of position* corresponding to the second observation on the chart, showing by its intersection with the first *line of position*, as corrected for change of station, the position of the ship at the time of the second observation.

The longitudes corresponding to the two latitudes by the second observation are no longer furnished by the Examiners. The candidates are consequently required to work out the whole of the problem for themselves (in place of the explanation recently required), and must be prepared to find the sun's true bearing by projection at the time of taking either the first or second observation; and when necessary to produce the *lines of positions* on the chart in order to make them cut one another should the position of the ship happen to be outside the parallels of the two assumed latitudes given in the question. Outline charts, extending from 46° to 49° , and from 49° to 52° of latitude respectively, are furnished by the Board of Trade to the different Examiners for this purpose.

APPENDIX O.

EXAMINATION of a Master or Mate in Steam.

THE regulations under which these examinations are conducted are printed at pages 18 and 19.

A candidate for this examination is required to have a thorough grasp of the construction of the steam engine and boiler, to enable him to understand the nature and importance of any defect which may be reported to him by the engineer, and work in harmony with the engineer in affording time and facilities for disconnections, inspections, adjustments, and repairs.

To have a looking-on knowledge of what the principal repairs are which are needed in engines and boilers and pipes, and how these repairs are accomplished.

To be able to form an independent opinion as to a breakdown, and the consequent propriety or impropriety of proceeding under steam with temporarily repaired or defective machinery.

To understand how to estimate approximately the reduction of fuel required for reduced speed, and, consequently, to sanction such reduction of speed as may seem to him to be warranted by the report of the engineer, and to satisfy himself before leaving port that there is sufficient coal for the voyage.

To have an intelligent grasp of the general run of pipes and connections in the engine room, the marking of cocks, the opening and closing of cocks and valves, how mistakes of importance may be made in the confusion of an accident, and how best to guard against such mistakes.

To be capable of being left in charge of the feeding of a set of boilers, to understand the working of the water gauge, and to be able to guard against being misled by false indications of the gauge glass.

To understand about blowing down and surfacing, the reasons for doing so, and the danger which may result from the neglect of these under certain circumstances. A master or mate presenting himself for examination in steam must be understood to have made up for his want of practical experience by reading up about the steam engine. He ought, therefore, to show that he has given his mind to intelligently understanding the *rationale* of the action of the steam engine. Under this head, he should, therefore, be able to state approximately the quantity of heat required in the formation of steam, the remarkable relation of "latent" heat to "sensible" heat, how much steam can be raised by the combustion of one pound of coal, what horse-power measure is, what indicated horse-power is, what is the action of the slide-valve, the course of the steam through the engine, and the advantage of working expansively, and how the expansive action is shown by the indicator diagram.

The candidate has to answer 16 out of 20 questions selected from the book of Elementary Questions.* Selections for this examination are given on the alphabetic

* Printed at end of the Regulations relating to the Examinations of Engineers, page 85.

sheet for "Steam." Generally, these answers are given by candidates as learned by rote from a book; the candidate should therefore be asked such *visà voce* questions as will necessitate his giving his answers in different words, so as to discover whether he has the root of the matter in him.

The principal part of the *visà voce* is the examination on board a steamer, preferably one with which he is unacquainted. He is told to look about and try to find out the run of the machinery without the assistance of anyone; the Examiner to be in the engine-room to see that this independent examination is properly carried out. When the candidate reports that he thinks he knows the whole arrangement of the machinery, the Examiner will then question him on the uses of the parts, get him to point out the different cylinders, pumps, valves, condenser, &c. He must show that he understands the run of the pipes in the bilges, not necessarily that he has gone over every one of them, but he ought to be directed to trace, at least, one important range of pipes, and to thoroughly satisfy the Examiner that he could be safely trusted to manipulate the valves or cocks in connection therewith. It will not often be practicable for the candidate to be asked to actually work engines under steam, but he must satisfy the Examiner that he knows how to do so, and that he is aware what precautions have to be taken in regard to water in the cylinder, &c. It is most important that a candidate should show that, in the event of an accident depriving him of the assistance of engineers, he knows what to do to safely take his vessel to an anchorage, or to stop the engines and proceed under sail alone.

The examination of a mate in steam is the same as that of a master. The knowledge required has no reference to the mate's position. A mate may be examined, but such examination implies that the mate will one day be a master, when the possession of the knowledge will be an advantage to him in the discharge of his duties as master.

APPENDIX P.

SOUND SIGNALS.

1. The Examiners already understand that they are to be very careful (in examining all applicants for certificates of competency) to satisfy themselves that the applicants understand the Rule of the Road at Sea, and should decline to pass every applicant who does not understand it.

2. As a serious misapprehension, however, arises in cases in which sound signals are made by a steamer under way in thick weather, contrary to the express wording of Articles 12a and 19 of the Regulations, it is more than ever incumbent on Examiners not to pass any applicant unless the Examiner is satisfied that the applicant understands that the signals named in Article 19 are purely optional, and are only allowed to be made in cases in which the weather is so clear that the ship making them has the other vessel in sight.

3. Any master using these *optional* sound signals, even when the other vessel is in sight, does so in every case on his own responsibility; but if he uses them when the other vessel is *not* in sight, he commits a very serious act of disobedience to the regulations, and must abide the consequences of his illegal act.

4. Applicants must be made to understand that the compulsory sound signal which *must* be made by a steamer under way in a fog is a prolonged blast under Article 12a, and no other sound signal.

5. In examining an applicant on the application of Articles 12 and 13, the Examiner should, by answers to questions, ascertain that the applicant understands that it is his duty to go at a moderate speed in fog, while, as regards Article 24, the Examiner should impress on the applicant that an "ordinary precaution" to be observed in the navigation of a steamship in a fog, is to get the way off his own vessel immediately he hears the sound signal of another steamer, and then he should go ahead very slowly, blowing the "prolonged blast" at intervals and feeling his way until all danger of collision is passed.

APPENDIX Q.

FORMS used in connection with the Examinations and Certificates of Masters and Mates.

Name of Form.	Initial Letters and Numbers.
Regulations relating to the examinations of masters and mates -	Exn. 1.
Masters and mates' form of application for examination - -	Exn. 2.
Form of application for examination (colours) - - - -	Exn. 2a.
Examination paper, to be used in the examination of second mates	Exn. 4.
Ditto, to be used by all candidates for foreign-going certificates when appearing for examination for the first time only.	Exn. 4a.
Ditto, second mates - - - - -	Exn. 5.
Ditto, only and first mates - - - - -	Exn. 6.
Ditto, only and first mates - - - - -	Exn. 6a.
Ditto, masters, ordinary - - - - -	Exn. 7.
Ditto, masters, extra - - - - -	Exn. 8.
Ditto, compass syllabus problems - - - - -	Exn. 8a.
Ditto, to be used by candidates for certificates for home-trade passenger ships when appearing for examination for the first time only.	Exn. 9.
Ditto, adjustments of the sextant - - - - -	Exn. 9a.
Ditto, examination in chart for mates - - - - -	Exn. 9c.
Ditto, examination in chart for masters - - - - -	Exn. 9d.
Ditto for mates, home trade passenger ships - - - - -	Exn. 9e.
Ditto for mates - - - ditto - - - - -	Exn. 9f.
Ditto, for masters - - - ditto - - - - -	Exn. 9g.
Answers to home trade problems - - - - -	Exn. 9h.
Examiners' report of masters and mates' examinations - - -	Exn. 14.
Answers to ordinary problems - - - - -	Exn. 14a.
Answers to extra problems - - - - -	Exn. 14b.
Answers to compass syllabus problems - - - - -	Exn. 14c.
Examiners' authority for delivery of certificate to successful candidate.	Exn. 16.
Examiners' certificate (colours) - - - - -	Exn. 16.
Examiners' authority for return of fee to unsuccessful candidate (colours).	Exn. 17a.
Examiners' report on colour tests - - - - -	Exn. 17b.
Claim for a certificate of service as master of foreign-going ships	Exn. 18.
Ditto, mate - - - - -	Exn. 19.
Ditto, master of home-trade passenger steamships - - -	Exn. 20.
Ditto, mate - - - - -	Exn. 21.
Application for renewed certificate - - - - -	Exn. 23.
Deviation cards - - - - -	Exn. 24.
Napier's diagram - - - - -	Exn. 25.
Coastline charts (True) Lats. 49° to 52° N. (Long. W.). - -	Exn. 26.
Ditto - - (True) Lats. 49° to 52° S. (Long. E.). - -	Exn. 27.
Outline charts for Sumner problem Lats. 46° to 49° N.). - -	Exn. 28.
Ditto - - - ditto - - Lats. 49° to 52° N.). - -	Exn. 29.
Ruled paper for written answers in examinations - - -	Exn. 30.
Order for forms used in connection with the examinations - -	Exn. 31.
Examination paper on cyclones or revolving storms - - -	Exn. 32.

APPENDIX R.

TABLE showing the River or Smooth Water, the Partially Smooth Water, and the Excursion Limits of the various Ports.

Col. 1. Name of Port.	Col. 2. Form Surveys 5. Smooth Water Limits.	Col. 3. Form Surveys 4. Partially Smooth Water Limits.	Col. 4. Form Surveys 3. Excursion Limits.
District of the EASTERN COAST of SCOTLAND.			
Aberdeen - - -	Inside the Harbour - -	Nil - - - - -	Peterhead or Montrose.
Banff - - -	Nil - - - - -	Nil - - - - -	Peterhead or Lossiemouth.
Dundee - - -	Within a line from Dundee and Newport Ferries.	Within a line from Broughty Castle to Tayport.	Montrose or Leith.
Inverness - - -	Within a line from Fort George to Chanoury Point to Fort William.	Nil - - - - -	Lossiemouth or Durobin.
Leith - - - -	Nil - - - - -	Within a line drawn from Kirkcaldy to Portobello.	Berwick-on-Tweed or Dun- dee.
Montrose - - -	Nil - - - - -	Nil - - - - -	Dundee or Aberdeen.
Peterhead - - -	Nil - - - - -	Nil - - - - -	Aberdeen or Banff.
Queensferry - -	Above the Forth Bridge -	Within a line from Kirkcaldy to Portobello.	Berwick-on-Tweed or Dun- dee.
District of the NORTH-EASTERN COAST of ENGLAND.			
Amble - - - -	Amble Bar - - - -	Nil - - - - -	St. Abbs Head or Middles- brough.
Berwick-on-Tweed -	Spittal Point - - - -	Nil - - - - -	North Berwick or New- castle.
Blyth - - - -	Inside the Pier Heads -	Nil - - - - -	Berwick - on - Tweed or Whitby.
Hartlepool, West - -	Nil - - - - -	Nil - - - - -	Amble or Bridlington.
Hartlepool, East - -	Hartlepool Bar - - - -	Nil - - - - -	Amble or Bridlington.
Newcastle, North and South Shields.	Inside the Tyne Pier Heads	Nil - - - - -	Berwick-on-Tweed or Scar- borough.
Sunderland - - -	Inside the Sunderland Pier Heads.	Nil - - - - -	Berwick-on-Tweed or Scar- borough.
Stockton - - - -	Fourth Buoy - - - -	Nil - - - - -	Amble or Bridlington.
Seaham - - - -	Nil - - - - -	Nil - - - - -	Berwick-on-Tweed or Scar- borough.
Whitby - - - -	Inside the Whitby Pier Heads.	Nil - - - - -	Bridlington or Newcastle.
District of the EASTERN COAST of ENGLAND.			
Boston - - - -	Inside the new cut - - -	Nil - - - - -	Cromer or Hull.
Grimsby - - - -	Nil - - - - -	In winter, nil. In summer, within a line from Cleethorpes Pier to Patrington Church.	Lynn or Scarborough.
Goole - - - -	In winter, within a line from Whitten Ness to Brough. In summer above Hull and New Holland.	Within a line from New Hol- land to Paull. (In winter.) In summer, within a line from Cleethorpes Pier to Patring- ton Church.	Lynn or Scarborough.
Hull - - - -	Same as Goole - - - -	Within a line from New Hol- land to Paull. (In winter.) In summer, within a line from Cleethorpes Pier to Patring- ton Church.	Lynn or Scarborough.
Gainsborough, Lincoln, Nottingham, York.	Same as Goole - - - -	Within a line from New Hol- land to Paull. (In winter.) In summer, within a line from Cleethorpes Pier to Patring- ton Church.	Spurn Point or Donna Nook.
Scarborough - - -	Nil - - - - -	Nil - - - - -	Newcastle or Hull.
LONDON DISTRICT.			
Burnham on the Crouch -	Within a line from Holly- well Point to Foulness Point.	Within a line from Clacton Pier to Herne Bay Pier.	Dover or Harwich.
Dover - - - -	Nil - - - - -	Nil - - - - -	Newhaven or Sheerness.
Folkestone - - -	Nil - - - - -	Nil - - - - -	Newhaven or Sheerness.
Harwich or Ipswich -	Inside Languard Fort -	Within a line from Walton-on- the-Naze to Languard Fort.	London or Lowestoft.
King's Lynn - - -	Inside Lynn Cut - - -	Nil - - - - -	Cromer or Hull.
Littlehampton - -	Above Littlehampton Pier -	Nil - - - - -	Hastings or the Needles.
London - - - -	Gravesend - - - -	Within a line from Clacton Pier to Herne Bay Pier.	Dover or Harwich.
*Lowestoft - - -	Inside Lowestoft Pier to Norwich.	Within a line from the S.W. Barnard Buoy to the North Cockle Buoy inside the banks.	Cromer or Walton-on-the- Naze.
*Norwich or Yarmouth -	Inside the Piers - - -	Within a line from the S.W. Barnard Buoy to the North Cockle Buoy inside the banks.	Cromer or Walton-on-the- Naze.
Newhaven - - -	Nil - - - - -	Nil - - - - -	Portsmouth or Dover.
Poole - - - -	Inside the Harbour - -	Nil - - - - -	Weymouth or the Nab.

* St. 5 Limit.—On all the Inland Navigation from Norwich to inside the Piers at Yarmouth or Lowestoft.

Col. 1. Name of Port.	Col. 2. Form Surveys 5. Smooth Water Limits.	Col. 3. Form Surveys 4. Partially Smooth Water Limits.	Col. 4. Form Surveys 3. Excursion Limits.
LONDON DISTRICT—continued.			
Portsmouth - - -	Inside Portsmouth Harbour	St. Helen's and the Needles within the Isle of Wight and to Langston Harbour. <i>For small launches not carrying boats.</i> In summer, a line from Ryde to Langston Harbour inside the Isle of Wight to Hurst Castle; in winter, Spithead.	Newhaven or Weymouth.
Rochester - - -	Sheerness and Whitstable inside Sheppey.	Within a line from Clacton Pier to Herne Bay Pier.	Dover or Harwich.
Southampton - - -	Calshot Castle - - -	Same as Portsmouth - - -	Newhaven or Weymouth.
Weymouth - - -	Nil - - - - -	Portland Harbour - - -	Portsmouth or the Start.
Wisbeach - - -	Inside Wisbeach Cut - - -	Nil - - - - -	Cromer or Hull.

SOUTH and SOUTH-WEST of ENGLAND DISTRICT.

Barnstaple - - -	Inside the Bar - - -	Nil - - - - -	Padstow or Bridgwater.
Dartmouth - - -	River Dart - - -	Nil - - - - -	Plymouth or Weymouth.
Exeter - - -	Inside the Bar - - -	Nil - - - - -	Weymouth or Plymouth.
Falmouth - - -	A line from Zoze Point to Pendennis Point.	Nil - - - - -	Start Point or Penzance.
Fowey - - -	Inside the Harbour - - -	Nil - - - - -	Falmouth or Plymouth.
Padstow - - -	Padstow Harbour above a line from Gun Point to Brae Hill.	Within a line from Stepper Point to Trebetherick Point.	St. Ives or Barnstaple.
Par - - -	Nil - - - - -	Nil - - - - -	Falmouth or Plymouth.
Penzance - - -	Nil - - - - -	Nil - - - - -	Fulmouth or St. Ives.
*Plymouth - - -	Within a line from the inside of Drakes Island to Mount Batten Pier.	Within a line from Cawsand to Breakwater and Breakwater to Staddon Pier.	Exeter or the Lizard.
St. Ives - - -	Nil - - - - -	Nil - - - - -	Padstow or Penzance.
Teignmouth - - -	Within the Harbour - - -	Nil - - - - -	Weymouth or Plymouth.
Torquay - - -	Nil - - - - -	Nil - - - - -	Weymouth or Plymouth.

SOUTH WALES DISTRICT.

Barmouth - - -	Inside Barmouth Ferry -	Nil - - - - -	Cardigan or Bardsey Island.
Barry Docks - - -	Inside Dock - - -	Nil - - - - -	Milford or Ilfracombe.
Bridgwater - - -	Inside Start Point - - -	Within the Bar - - -	Ilfracombe or Swansea.
Bristol - - -	Within a line from Avonmouth Pier to Wharf Point.	In winter, nil. In summer, within a line from Lavernock Point to the Flatholm, thence to the Steephholm, thence to Bream Down.	Ilfracombe or Swansea.
Cardiff - - -	Within a line from Lowwater Pier Head to the Lifeboat House near Penarth Dock entrance.	In winter, nil. In summer, within a line from Lavernock Point to the Flatholm, thence to the Steephholm, thence to Bream Down.	Tenby or Ilfracombe.
Cardigan - - -	Inside the Bar - - -	Nil - - - - -	Portmadoc or Milford.
Gloucester - - -	River Severn or Avon to Sharpness Point <i>via</i> Gloucester Canal.	In winter, nil. In summer, within a line from Lavernock Point to the Flatholm, thence to the Steephholm, thence to Bream Down.	Watchet or Barry Docks.
Milford - - -	Within a line from Hubberton Beach to Angle Point.	Within a line from South Hook Point to Thorn Island.	Swansea or Cardigan.
Neath - - -	Inside the Bar - - -	Nil - - - - -	Bristol or Milford.
Swansea - - -	Nil - - - - -	Nil - - - - -	Barnstaple or Milford.

LIVERPOOL DISTRICT.

Barrow - - -	Inside Walney Island -	Nil - - - - -	Liverpool or Whitehaven.
Bowness - - -	Anywhere on the Lakes -	Nil - - - - -	Nil.
Carlisle - - -	Above Port Carlisle - -	Within a line from Southernness to Silloth.	Whitehaven or Port Whit-born.
Carnarvon - - -	Menai Straits to Aber Menai or Beaumaris.	Menai Straits, from Carnarvon Bar to Puffin Island.	Liverpool or Portmadoc or round the Island of Anglesea.
Chester - - -	River Dee, not below Connah's Quay.	Inside the West Hoyle Bank -	Barrow, Holyhead, or Carnarvon.
Conway - - -	Within a line from Mussel Hill to Trevlyd Point.	Nil - - - - -	Liverpool or Portmadoc or round the Island of Anglesea.
Douglas - - -	From Battery Pier to Victoria Pier.	Nil - - - - -	Round the Island.
Fleetwood - - -	Within a line from Low Light to Knotend Pier. Within Fleetwood Harbour for tugs plying as tenders to Belfast and Isle of Man steamers.	Nil - - - - -	Whitehaven or Liverpool.

Col. 1. Name of Port.	Col. 2. Form Surveys 5. Smooth Water Limits.	Col. 3. Form Surveys 4. Partially Smooth Water Limits.	Col. 4. Form Surveys 3. Excursion Limits.
LIVERPOOL DISTRICT—continued.			
Holyhead - - -	Inside the Breakwater -	Nil - - - - -	Liverpool or Portmadoc or round the Island of Anglesea.
Lancaster - - -	Within a line from Sunderland Point to Chapel Point.	Nil - - - - -	Whitehaven or Liverpool.
Liverpool - - -	The Rock Light House -	In winter, nil. In summer within a line from Formby Point to Hilbore Point. Special limit for tenders to ocean-going steamers—within a radius of 3½ miles of Formby Lightship—during fine weather only. The Bell Buoy and Bar Lightship for tugs taking passengers from ships outside the Bar.	Barrow, Holyhead, or Carnarvon.
Morecambe - - -	In winter, nil. In summer within a radius of two miles of the Midland Railway Dock and to Grange.	Nil - - - - -	Same as Barrow.
Portmadoc - - -	Inside the Bar Buoy -	Nil - - - - -	Cardigan or Carnarvon.
Preston - - -	Lytham - - - -	Within a line from Southport or Blackpool inside the Banks.	Llandudno or Barrow.
Whitehaven - - -	Nil - - - - -	Nil - - - - -	Barrow or Carlisle.

District of the WESTERN COAST OF SCOTLAND.

Ardrossan - - -	Nil - - - - -	Nil - - - - -	Stranraer or Glasgow.
Ayr - - - - -	Inside the Bar - - -	Nil - - - - -	Stranraer or Glasgow.
Campbeltown - - -	Inside the Harbour - -	Nil - - - - -	Glasgow only.
Dumfries - - - -	Inside Aird Point and Glenhewen Point.	Within a line from Southernness to Sillioth.	Wigtown or Whitehaven.
Fort William - - -	On the Canal to Inverness -	Nil - - - - -	Crinan or Tobermory.
Glasgow - - - - -	Within a line from Cloch Lighthouse to Dunoon Pier. (In winter.) In summer within a line from Bogany Point, Isle of Bute, to Skelmorlie Castle and Ardnamont Point inside the Kyles of Bute.	Within a line from Skipness to Fairlie Head round the Island of Bute.	Stranraer or Campbeltown.
Oban - - - - -	Nil - - - - -	Inside the Island of Kerrera to Dunstaffnage Point.	Crinan, Tobermory, or Fort William.
Stranraer - - - -	Inside Cairn Ryan - - -	Loch Ryan, within a line from Kinnard Point and Millour Point.	Wigtown or Greenock.
Wigtown - - - - -	Nil - - - - -	Nil - - - - -	Stranraer or Dumfries.

IRELAND.

Bantry Bay - - -	Inside Bear Island, inside Whiddy Island, Glengariff Harbour, inside Corrid Point.	Nil - - - - -	Galley Head or Valencia Harbour.
Belfast - - - - -	Within a line from Holywood to Macedon Point.	In summer within a line from Carrickfergus to Bangor; in winter, nil. A special limit for tenders to ocean steamers only, within a radius of 3 miles from Carrickfergus during fine weather.	Rathlin Island or Killough.
Cork - - - - -	Within a line from Camden to Carlisle Forts.	Nil - - - - - A special limit for tenders to ocean steamers only, within a radius of 3 miles from Roches Point during fine weather.	Dungarvan or Galley Head.
Donegal - - - - -	Inside the Bar - - - -	Nil - - - - -	Sligo or Kathlin O'Birne Island.
Dublin - - - - -	Inside the Pier Heads -	In summer within a line from Dalkey Island to Bailey Point; in winter, nil.	Drogheda or Arklow.
Enniskillen - - -	Lough Erne - - - - -	Nil - - - - -	Nil.
Galway - - - - -	Lough Corrib - - - -	Within a line from Black Rock Beacon to Kilcolgan Point.	Kilcieran or Liscanor Bays inside the Arran Isles.
Limerick - - - - -	Foynes - - - - -	Within a line from Scatterry Lighthouse to Carrig Island.	Loop Head or Kilmore Head.
Londonderry - - -	Within a line from Magiligan Point to Greencastle.	Nil - - - - - A special limit for tenders to ocean steamers only, within a radius of 3 miles from Innishowen Lighthouse during fine weather.	Buncrana in Lough Swilly or Rathlin Island.

Col. 1.	Col. 2.	Col. 3.	Col. 4.
Form Surveys 1.	Form Surveys 5.	Form Surveys 4.	Form Surveys 3.
Name of Port.	Smooth Water Limits.	Partially Smooth Water Limits.	Excursion Limits.
IRELAND—continued.			
Lough Swilly - - -	Within a line from Buncrana to Muckarnish Point.	Within a line from Dunree Head to Port Salon.	Portrush or Tory Island.
Sligo - - - -	The Western extreme of Oyster Island.	Within a line from Raghly Point to Black Rock Light.	Donegal or Ballina.
Waterford - - -	Passage - - - -	In summer within a line from Dunmore to Hook Point; in winter within a line from Geneva Barrack to Duncannon Light.	Youghal or Wexford.
Wexford - - - -	Inside Ely House - - -	Within a line from Raven Point to Rossclare Point.	Arklow or Waterford.
Youghal - - - -	Within a line from Ferry Point to Green Park.	Nil - - - -	Waterford or Kinsale.

APPENDIX S.

TABLE showing the Requirements as to Sea Service necessary to qualify for Examination for Certificates of Competency.

NOTE.

Recent experience at sea.

Service in square-rigged sailing vessels.

Nature of Certificates.

No candidate will be allowed to be examined for *any grade of certificate* unless he has served at sea two years, either in the home, coasting, or foreign trade, within the last six years, of which six months must have been within the last three years immediately preceding the date of his application to be examined.

A candidate for an ordinary certificate of any grade who has not previously held an ordinary certificate of a lower grade, must prove that he has served 12 months in the foreign trade or 18 months in the home or coasting trade in a square-rigged sailing vessel within the last five years.

Where foreign-going certificates are required to be held to qualify candidates for examination, they may be either the ordinary certificates, or those for fore and aft rigged vessels, or for foreign-going steamships.

Rank.	Minimum Age.	Total Sea Service (Years).	Officer's Service in Merchant Vessels.		
			Years.	Lowest Capacity.	Lowest Certificate (if any) required.
ORDINARY CERTIFICATES FOR "FOREIGN-GOING" SHIPS.					
2nd mate - -	17	4	-	No officer's service required - - -	Nil.
Only mate - -	19	5	-	No officer's service required - - -	Nil.
1st mate - -	19	5	1	3rd or 4th mate in foreign trade in charge of watch.	2nd mate foreign-going.
Master - -	21	6	1½	Only mate in home or coasting trade - - Or	2nd mate foreign-going, or home trade mate.
			1	Pilot with 1st Class Pilot's certificate - -	Nil.
			1	Only mate in foreign trade - - - Or	Only mate foreign-going.
			1½	Only mate in home or coasting trade - - And in addition, unless the above service was performed with a 1st mate's foreign-going certificate, he will also be required to prove one of the following services prescribed for that grade.	Only mate foreign-going.
			1	3rd or 4th mate in foreign trade in charge of watch.	2nd mate foreign-going.
			1½	Only mate in home or coasting trade - - Or	2nd mate foreign-going, or home trade mate.
			1	Pilot with 1st class pilot's certificate - - Or he must have served	Nil.
			6½	2nd mate in foreign trade - - - And in addition,	1st mate foreign going.
			1½	3rd or 4th mate in foreign trade in charge of watch.	2nd mate foreign-going.
			9*	Or he must have served Master in home or coasting trade - -	2nd mate foreign-going, or master home trade for one year of such service.
Extra master - -	--	--	1	Or Master in home or coasting trade - - And in addition,	- ditto.
			3	Mate in home or coasting trade - -	
			-	Same as master - - -	

* If all the service was in home or coasting trade.

Rank.	Minimum Age.	Total Sea Service (Years).	Officer's Service in Merchant Vessels.		
			Years.	Lowest Capacity.	Lowest Certificate (if any) required.
CERTIFICATES FOR "FOREIGN-GOING" FORE AND AFT RIGGED VESSELS.					
2nd mate -	-	}	Same as for ordinary certificates; except that no service in <i>square rigged sailing vessels</i> is required.		
Only mate -	-				
1st mate -	-				
Master -	-				
CERTIFICATES FOR "FOREIGN-GOING" STEAMSHIPS.					
2nd mate -	-	}	Same as for ordinary certificates; except that the service as <i>officer</i> must have been performed in a <i>steamship</i> , and that no service in <i>square-rigged sailing vessels</i> is required.		
Only mate -	-				
1st mate -	-				
Master -	-				
Extra master	-				
CERTIFICATES FOR HOME TRADE PASSENGER SHIPS.					
Mate -	19	4	-	No officer's service required	Nil.
Master -	20	5	1	Only mate	Mate, home trade, or only mate foreign-going.
			2½	Or 2nd mate in charge of watch	Mate, home trade, or 2nd mate foreign-going.
			1	Or As pilot with 1st class pilot's certificate	Nil.

APPENDIX T.

FORM Vision, Colour Vision, and Colour Ignorance Tests.

The following are the rules relating to the form vision and colour tests:—

- (1.) Examinations for form vision, colour vision, and colour ignorance are open to all persons serving or intending to serve in the Mercantile Marine, and all such persons are recommended to take the earliest opportunity of ascertaining by means of these examinations whether their vision is such as to qualify them for service in that profession.
- (2.) The examination consists of three parts :—
 - (a.) Form Vision Test (*see* Note A).
 - (b.) Colour Vision Test (*see* Note B).
 - (c.) Colour Ignorance Test (*see* Note C).

No candidate will be examined in the colour vision test until he has passed the form vision test, or in the colour ignorance test until he has passed the colour vision test.
- (3.) Any person serving or intending to serve in the Mercantile Marine, if desirous of undergoing the form vision, colour vision, and colour ignorance tests *only*, must make application to the Superintendent of a Mercantile Marine Office on the form Exn. 2A, and must pay a fee of 1s.
This fee will be payable on each occasion upon which a candidate is examined in form, vision and colours *only*.
- (4.) Every candidate for a certificate of competency who is not already in possession of such a certificate will be required to pass the three tests mentioned in rule (2) before he can proceed to the examination in navigation and seamanship for the certificate which he desires to obtain, even though he may have passed the tests on some previous occasion.
- (5.) Every candidate who is already in possession of a certificate of competency, and who desires to obtain a certificate of a higher grade, will be required to pass the three tests mentioned in rule (2) before he can proceed to the examination in navigation and seamanship for the certificate of a higher grade.
That is to say, no candidate will be permitted to proceed with the examination in navigation and seamanship for a higher certificate if he fails to pass the three tests.
- (6.) If a candidate fails to pass any of the three tests, a note of the fact of his having done so will be written across the face of the certificate which he already possesses before the certificate is returned to him.
- (7.) If a candidate who undergoes the form vision, colour vision, and colour ignorance tests *only* (*see* rule (3)), is in possession of a certificate of competency, he must hand in his certificate before the examination commences, and if he fails to pass any of the three tests, a statement of his failure will be written on the certificate before it is returned to him.
- (8.) Candidates who fail to pass the form vision test or colour ignorance test can be re-examined at intervals of three months, but candidates who fail to pass the colour vision test cannot be re-examined. It is open, however, to any candidate who has failed to pass that test to appeal to the Board of Trade, who may, if they think fit, remit the case to a special Examiner or body of Examiners for final decision.

- (9.) The expenses of candidates who are examined by the special Examiners, *and are reported by them to have passed the three tests*, will, under certain circumstances, be paid by the Board of Trade, at a rate which will be notified to the candidate, but no payment whatever will be made towards the expenses of candidates who upon their own application are examined by the special Examiners and are reported by them to have failed. The special examinations will be held in London only.
- (10.) When a candidate fails to pass the colour test the Examiner will point out to him the conditions under which he can appeal. Appeals are to be made through the Examiner, and forwarded to the Board of Trade with the Examiner's remarks.
- (11.) The holder of a certificate which bears on it a statement of failure in the first test (Form Vision), or in the third test (Colour Ignorance) can have the statement removed by passing after the prescribed interval the test to which it refers, but the instruction in the last paragraph of rule (2) must be followed.
- (12.) The fee paid for examination for a certificate of competency includes the fee of 1s. for examination in form vision, colour vision, and colour ignorance, and if the candidate fails to pass those tests, will, with the exception of 1s., be returned to him.
- (13.) Only Examiners who have themselves passed the colour test are to undertake these examinations.

NOTE A.

FORM Vision Test.

Test for Form Vision to be passed first.

(1.) The test for form vision is the first test which the candidate is required to undergo, and until he has passed this test he cannot be allowed to proceed further with the examination. (See rule 2.)

Tests to be used.

(2.) The tests to be used are Snellen's letter test for candidates who can read, and the "Dot" tests for those who cannot read.

The sets of tests which have been supplied to the Examiners consist respectively of eight sheets of Snellen's letters and two sheets of dots.

Object of the tests.

(3.) The chief object of the tests for form vision is to show whether the candidate possesses eyesight of sufficient strength and range, or in other words they are means of discovering whether the candidate has good or bad sight.

They also afford a means of detecting whether a candidate is suffering from that form of colour blindness which is caused by the excessive use of tobacco, and by illness or similar affections. All candidates who are suffering from colour blindness arising from causes of that nature will be found to be incapable of passing the tests for form vision.

General conduct of the tests.

(4.) Candidates may use both eyes or either eye when being tested, but they must not be allowed to use spectacles or glasses of any kind.

The set of tests is to be hung on the wall, *in a good light*, at a height of about 5 or 6 feet from the ground.

Conduct of the Letter test.

(5.) If the candidate can read, he should be placed at a distance of 16 feet from the letter test sheets, and exactly opposite them. The distance should be carefully measured, and the candidate should not be allowed to approach within 16 feet of the test sheets.

One of the eight sheets of letters should then be exposed, and the candidate should be asked to read the letters, beginning at the top and going downwards. If he can read correctly three of the five letters in the fifth line from the top (third from the bottom), or four of the letters in either of the two lines below, he may be considered to have passed the test. If he cannot do so he should be treated as having failed. Candidates should be tested with at least two of the sheets of letters, and the same two sheets should not be used for all candidates.

(6.) The number printed over each row of letters shows the distance in feet at which a person possessing ordinary sight should be able to read the letters in the row.

(7.) If the candidate cannot read, he must be tested with the sheets of dots. For this test he is to be placed at a distance of precisely 8 feet from the test sheets, and exactly opposite them. One of the sheets of dots is then to be exposed, and the candidate should be asked to name the number of dots in one or two of the lines or groups. Lines and groups of dots can be formed by holding a piece of white paper over part of the sheet, but care must be taken that when this is being done the candidate's view is not obstructed, or the light on the test sheet in any way obscured.

The Examiner must make sure that the candidate understands what he is required to do. If the candidate answers the questions put to him by the Examiner with complete or very nearly complete accuracy, he should be treated as having passed. If he does not answer with very nearly complete accuracy, he should be treated as having failed.

Tests to be varied.

(8.) The Examiner must take care, by varying the tests in form vision, and by every other means, to guard against the possibility of any deception on the part of the candidates.

Result of tests to be reported.

(9.) The result of every test in form vision is to be reported to the Registrar General of Seamen, on the form Exn. 2, and to the Principal Examiner of Masters and Mates on

on the form Exn. 14, when the candidate is up for examination for a certificate of competency, and to the Registrar General of Seamen on the form Exn. 2a, when the candidate is up for examination in colours only.

All cases of failure to pass the test are also to be reported to the Principal Examiner of Masters and Mates on form Exn. 17B.

NOTE B.

Colour Vision Test.

(1.) The colour vision of candidates is to be tested by means of Holmgren's wools.

Nature of the test.

The wools are always to be kept in the tins provided for the purpose, except when in use at an examination, in order that they may not become faded or dirty. Each set contains about 135 skeins of wool.

(2.) Before the examination commences the skeins should be separated from one another, but each separate skein should be kept tied up as when first received.

General instructions.

The three test skeins are labelled respectively I. (light green), IIa (pink or light purple), and IIb (red), and they are always to be used in the order mentioned.

Care must be taken that the labels do not get detached.

The colour vision test should be held only by daylight. If a good natural light is not obtainable and artificial light has to be used, the test must be postponed. When the weather is dark or foggy, and the candidate cannot be examined in colours before his examination in navigation commences, he may be allowed to proceed with the examination in navigation provided he is examined in colours on the first available opportunity.*

Full instructions as to the conduct of the examination will be found on pages 66 to 71.

(3.) The Examiner, as the examination proceeds, should carefully place on one side the skeins, the selection of which by the candidate seems to indicate a defect in colour vision, taking care to discriminate between those selected as matching the first test skein, those selected as matching the second test skein, and those selected as matching the third test skein.

Course to be followed if incorrect selections are made by candidates.

The skeins, which have been correctly selected, should be returned to the general heap on the completion of each of the three tests.

(4.) In every case in which the Examiner rejects a candidate, or is in doubt as to whether he should reject him or not, he is, when the examination is finished, to cut a small piece (say, an inch) off *every one of the actual skeins incorrectly selected by the candidate*, and to stitch the pieces cut off on to form Exn. 17c, keeping the pieces cut off the skeins selected as matches to the first test skein in one line, the pieces cut off the skeins selected as matches to the second test skein in another line, and the pieces cut off the skeins selected as matches to the third test skein in a third line on the form. The form (form Exn. 17c) with the pieces of wool attached to it is then to be forwarded to the Principal Examiner of Masters and Mates, with the Examiner's report, on form Exn. 17B.

Pieces of the wools incorrectly selected by a candidate who fails are to be sent to the Principal Examiner of Masters and Mates.

The greatest care must be taken that the pieces forwarded are cut off the actual skeins selected by the candidate, in order that there may be a reliable record of the actual selections made by the candidate if any question should subsequently arise.

Pieces need not be cut off the test skeins, but only off the skeins incorrectly selected by the candidate.

(5.) In cases in which the candidate passes the test, pieces need not be cut off the skeins he has selected.

If the candidate passes, pieces of the wools need not be cut off.

(6.) When the candidate makes incorrect matches the Examiner should, after each of the three tests, hold up the skeins selected, and ask the candidate if he is satisfied that they all match the test skein. If he is not satisfied he may be allowed to withdraw any of the skeins he pleases.

Candidates should be given the opportunity of correcting their mistakes.

(7.) During the test for colour blindness the Examiner should avoid naming the colours of any of the wools, and should explain to the candidate that he does not require them to be named to him.

Candidates are not required to name the colours of the wools.

In the test for colour ignorance the candidate has to name three colours. (See Note (C).)

(8.) As soon as any skein becomes discoloured, or unduly reduced in size (say by one-third), owing to pieces having been cut off it, the matter should be reported to the Board of Trade.

Course to be taken when the skeins of wool become reduced in size or discoloured.

(9.) In the remarks which follow reference is made to different kinds of colour blindness (red blindness and green blindness), but the Examiner is not required to form any conclusion as to the kind of colour blindness from which the candidate suffers, and should not offer the candidate any opinion on this point.

Examiners are not required to decide from what form of colour blindness an unsuccessful candidate is suffering.

All that is required is that the Examiner shall conduct the examination according to the rules laid down, and from the wools selected judge whether the candidate is or is not colour blind, the nature of his colour blindness being immaterial.

10. The

* When the examination in navigation precedes the colour tests the candidates should be informed that the examination in navigation will count for nothing if they should fail to pass the colour tests.

Result of tests to be reported.

(10.) The result of every test should be reported to the Registrar General of Seamen on the form Exn. 2, and to the Principal Examiner of Masters and Mates on the form Exn. 14, when the candidate is up for examination for a certificate of competency, and to the Registrar General of Seamen on the form Exn. 2a, when the candidate is up for examination in colours only.

All cases of failure should also be reported to the Principal Examiner of Masters and Mates on form Exn. 17B, to which should be attached form Exn. 17c., containing the pieces of the wools incorrectly selected by the candidate. (See paragraph 4.)

Holmgren's Method of Testing for Colour.

The method of testing consists in asking the candidate to select from variously coloured objects those which appear of the same colour as one which the Examiner selects. The most suitable objects and at the same time the most readily obtainable are skeins of wool, which can be procured of almost every desired hue and tone. An advantage of skeins of wool, besides their portability, is that, owing to their want of gloss, they appear of approximately the same tone from whichever side they are viewed. The colours of the skeins to be selected include reds, oranges, yellows, yellowish-greens, pure greens, blue-greens, blue, violets, purples, pinks, browns, and greys. Several shades of each colour, with at least five gradations of each tint, are provided, from the deepest to the lightest greens and greys. Varieties of pinks, blues, and violets, and of light grey, together with shades of brown, yellow, red, and pink, are well represented. The test skeins with which the examinees are to compare the other skeins are three in number:—(1) a light green; (2) a pink or pale purple; and (3) a bright red. These three colours will suffice to indicate approximately the amount and kind of colour blindness which may exist. The light green skein, which is a tolerably pure green mixed with a large proportion of white, is chosen as the colour which closely matches the spectrum colour which the red and green blind distinguish as white or grey. It is chosen of a pale tint, as it then becomes puzzling to the colour blind to distinguish its colour by luminosity. A light grey or drab skein will present the same brightness to him that this pale colour does, and although he may be trained to distinguish bright colours by their relative luminosities, in the case of these pale varieties he will be unable to do so. The pink or light purple is chosen for similar reasons, and, in fact, it is nearly a complementary colour to the green. The purple is, according to the Young-Helmholtz theory, a mixture of two fundamental colours, the blue and the red, and as in the green blind it excites both the blue and red sensations it may be confused with grey, or with a green. In the red colour blind it excites in excess the blue sensations mixed with what they call white. A blue or violet may therefore be matched with it.

The method of examination is as follows:—

Method of Examination and Diagnosis.

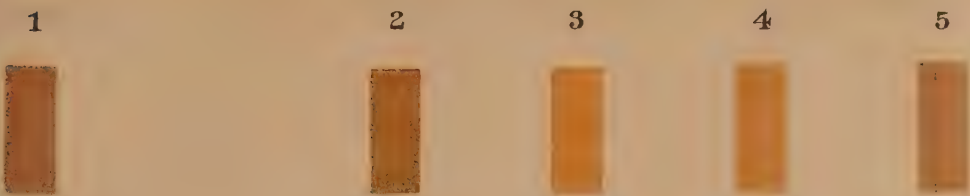
The wools are placed in a heap on a large table covered by a white cloth or white paper, and in broad daylight. The first test skein is taken from the pile, and laid far enough away from the others not to be confounded with them during the examination. The person examined is requested to look carefully at the test skein, and then to select other skeins from the pile most nearly resembling it in colour, and to place them by the side of the sample. At the outset, it is necessary that he should thoroughly understand that he is required to search the heap for the skeins which make an impression on his chromatic sense or sense of colour, similar to that made by the test-skein, and quite independently of any name he may give the colour. The Examiner should explain that resemblance in every respect is not necessary; that there are no two specimens exactly alike; that the only question is the resemblance of the colour; and that, consequently, the candidate must endeavour to find something similar in shade, and something lighter and something darker of the same colour. If the person examined cannot succeed in understanding this by a verbal explanation, resort must be had to action. The Examiner should himself pick out the skeins, thereby showing in a practical manner what is meant by a shade, and then restore the whole to the pile, except the sample skein. As it would require too much time to examine every individual in this way, it is advisable, when examining large numbers, to instruct them all at once, and to ask them to attentively observe the examination of those preceding them so as to become more familiar themselves with the process. This saves time, and there is no loss of security, for no one with a defective chromatic sense will be able to find the correct skeins in the heap the more easily from having a moment before seen others looking for and arranging them. He will make the same characteristic mistakes; but the normal observer, on the other hand, will generally accomplish his task much better and more quickly after having seen how it has to be done.

The coloured plate shows the test colours and some of the mistakes likely to be made by colour-blind people. The colours in the plate are of two characters,—

1st. The *colours for samples (test colours)*; that is, those which the Examiner presents to the persons examined; and

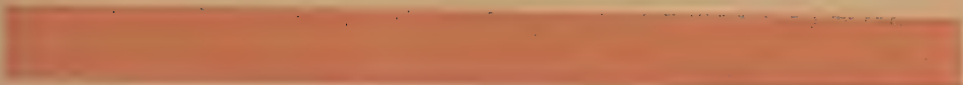
2nd. The "*confusion colours*"; that is to say, those which the colour blind may select as matches with the sample.

I.



COLOUR BLINDNESS.

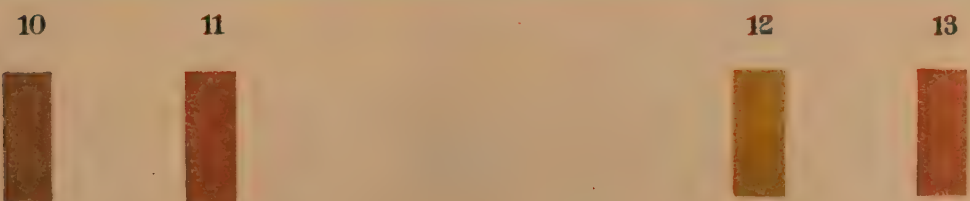
IIa.



RED BLINDNESS.

GREEN BLINDNESS.

IIb.



RED BLINDNESS.

GREEN BLINDNESS.

The first are shown on the plate as horizontal bands, and are distinguished by roman numerals (I., II.a, and II.b), and the second as vertical bands, under the test colours, and are distinguished by arabic figures (1, 2, 3, &c.).

As to the similarity between the confusion colours of the plate and the wools which the colour blind take from the heap, reliance must be placed simply on the hue, and not on their brightness or degree of colour saturation. The confusion colours shown in the plate are only to illustrate the mistakes which the colour blind may make, and for this purpose they serve perfectly. Having made this explanation, we can pass directly to the test itself. The following are the directions for conducting it, and for making a diagnosis from the results:—

Test I.—The green test skein which is labelled test No. 1 in the bundle is exhibited to the candidate. This sample is the palest shade (the lightest) of very pure green, which is neither a yellowish-green nor a blue-green to the normal eye, but fairly intermediate between the two, or at least not verging upon yellowish green.

Rule.—The examination must continue until the examinee has placed near the test skein several other skeins of the same colour, or else, with these or separately, one or more skeins of the class of “confusion colours,” such as 1 to 5 in the plate, or until he has sufficiently proved that he can easily and unerringly distinguish the confusion colours, or else has given unmistakable proof of a difficulty in accomplishing it.

Diagnosis.—An examinee who places with the test skein “confusion colours,” such as 1 to 5, that is to say, finds that they resemble the “test colour,” is *colour blind*, whilst if he evinces a manifest disposition to do so, though he does not absolutely do so, he has a *feeble chromatic sense*, or sense of colour.

Remark.—We might have taken more than five colours for “confusion”; but we must remember that we are not taking into consideration *every* kind of defective colour sense.

Test II.—The pink or light purple skein, which is labelled No. II.a, is shown to the examinee. The colour is midway between the lightest and darkest. It only approaches that given as II.a of the plate, as the colour of the wool is much more brilliant and saturated, and bluer.

Rule.—The trial must be continued until the examinee has placed all or the greater part of the skeins of the same colour near the test skein, or else, together or separately, several skeins of the “confusion colours,” such as 6–9. If he is colour blind he will probably select either the light or deep shades of blue and violet, especially the deep (6 and 7), or the light or deep shades of one kind of green or grey inclining to blue (8 and 9).

Test III.—The *red* skein labelled No. II.b is presented to the examinee. It is necessary to have a vivid red colour, like the red flag used as signals on railways. The colour should be that of II.b of the plate, rather towards yellowish red.

Rule.—This test should be continued until the person examined has placed beside the test skein the greater part of the skeins belonging to this hue, or else several “confusion colours” (10–13).

Remark.—Every case of comparatively complete colour blindness does not always give precisely the same mistakes. Instances occur of persons who are not completely colour blind, or of completely colour blind persons who have been practised in the colours of signals, and who endeavour not to be discovered. They usually confound at least green and brown, but even this does not always happen.

Mono-chromatic Vision.—The absence of every colour sensation except one will be recognised by the confusion of all the hues, which will appear to be of the same intensity of light or brightness.

Dr. Joy Jeffries, in his book on colour blindness, gives a translation of Holmgren's special directions for conducting the examinations. The examinations to which Holmgren refers were for employes on the Swedish railways, but the remarks which follow are applicable to examinations for officers and seamen in the Mercantile Marine.

Special Directions for Conducting the Test.

The method plays an important part in an examination of this kind, not only from the principles upon which it rests, but also from the manner in which it is used. The best plan for directing how to proceed is by oral instructions and *de visu*, but here we are obliged to accomplish this by description. Now, this is always defective in some respects, especially if we wish to be brief. What has been said would evidently suffice for an intelligent and experienced physician; but it may not be superfluous to enter still further into detail to provide against any possible difficulties and loss of time. The object of the examination is to discover the nature of a person's chromatic sense, or sense of colour. Now, as the fate of the candidate and that of others depends upon the correctness of the judgment pronounced by the Examiner, and as this judgment should be based upon the manner in which the candidate stands the trial, it is of importance that this trial should be truly what it ought to be, a trial of the nature of the chromatic

sense, and nothing else; an end that will be gained if our directions are strictly followed. It is not only necessary that the Examiner should carefully observe them—which does not seem to us difficult—but that he also should take care that the individual examined does thoroughly what is required of him. This is not always as easy as one might suppose. If it were only required to examine people familiar with practical occupations, and especially with colours, and with no other interest connected with the issue of the examination than to know whether they are colour blind or not, the examination would be uniform and mechanical; but it is required to examine people of various degrees of culture, all of whom, besides, have a personal interest in the issue of the examination. Different people act very differently during the examination for many reasons. Some submit to it without the least suspicion of their defect; others are convinced that they possess a normal sense. A few only have a consciousness, or at least some suspicion, of their defect. These last can often be recognised before examination. They will keep behind the others, and attentively follow the progress of the trial, and, if allowed, will willingly remain to the last. Some are quick, others slow. The former approach unconcernedly and boldly, the latter with over-anxiety and a certain dread. Some have been, perhaps, already tested and have practised in preparation for the trial; others have never been familiar with colours. Among those already tested some may be colour blind. Some of these latter are uncertain about their colour vision, and act with great care, whilst others, again, having been practised in distinguishing signals, conclude that their colour sense is perfect. They make the trial quickly and without thought, of course regularly making the mistakes characteristic of their special form of colour blindness.

The majority, however, desire to perform their task as well as possible, that is, to do what the normal eyed does. This, of course, assists in testing them, provided it does not lead to too great care, as then the testing is more difficult, the trouble being that much time is wasted.

Only a very small part have a contrary desire, namely, to pass for colour blind, though normal eyed. We will speak of these later, and now only concern ourselves with those who stand the test in good faith with the desire to appear normal, though perhaps they are colour blind.

The trial generally goes on rapidly and regularly. We will only mention those hindrances and peculiarities which most frequently occur. The Examiner must watch that no mistake is made from not understanding. The names of the colour need never be used, except to ascertain if the name hides the subjective colour sensation, or to find the relation between the name the colour blind employs and his colour perception.

The person examined who thinks more of names than the test itself (this being generally a sign of school learning) selects not only the words of the same hues—that is, those of the same colour to his eye—but all which generally have the name of this colour; for instance, in the first test, 1., not only the green like the sample, but all that are green; and with the second test, not only the purple (and what are generally called red), but all which *look* reddish, scarlet, cinnabar, or sealing-wax red. This is of no importance, for those who only do this have scarcely such defective chromatic sense as that with which we are concerned.

Under any circumstance it is better to correct the mistakes just mentioned, when arising from misunderstanding, and it is even necessary, in reference to the mistakes we explained might occur with the first test. It might be said that it was sufficient if the examined confounded the test colour with green only; that it was indifferent whether he distinguishes carefully between the various kinds of green. But, in fact, this is not so unimportant. We must give full weight as to whether the confusion arises from misunderstanding, or lack of practice with colours, or, finally, from a true chromatic defect. To include all that is green would render the test tedious and unpractical. In fact, no little judgment has been exercised in the selection of the very lightest shade of the green proposed as a test colour, for it is exactly what the colour blind most readily confounds with the colours (1-5) of the plate. If the examinee were allowed to depart from the narrow limits every shade of green could be included, the result of which would be that he would prefer to select all the vivid shades, and thus avoid the dangerous ground where his defect would certainly be discovered. This is why it is necessary to oblige him to keep within certain limits, confining him to pure green specimens, and, for greater security, to recommend him to select especially the lightest shades; for, if he keeps to the darker shades, as many try to do, he readily passes to other tones, and loses himself on foreign ground, to the great loss of time and of the certainty of the test. What we have just said of green applies also, of course, to purple (test IIa.).

The principle of our method is to force the examinee to reveal, by an act of his own, the nature of his chromatic sense.

Now, as this act must be kept within certain limits, it is evident that the Examiner must direct him to some extent. This may present, in certain cases, some difficulty, as he will not always be guided, and does either too much or too little. In both cases the Examiner should use his influence, in order to save time and gain certainty, and this is usually very easily done. This intervention is, of course, intended to put the examinee in the true path, and is accomplished in many ways, according to the case in point.

We will here mention some of the expedients we have found useful:—

(A.) Interfering when the Candidate selects too many Colours.

It is not always easy to confine the candidate within the proper limits. In the first test he easily slips a yellow-green or blue-green skein among the others, and, as soon as there is one, others follow usually : and it thus happens that in a few moments he has a whole handful of yellow-green, a second of blue-green, a third of both these shades at the same time. Our procedure has assisted us in more than one case of this kind.

(a.) When the person examined has begun to select shades of one or several other colours than those of the sample, his ardour is arrested by taking from him the handful of skeins he has collected and asking him whether his eye does not tell him there are some which do not match the others, in which case he is told he may restore them to the pile. He then generally proceeds in one of the following manners :—

1. He rejects, one after the other, the incorrect skeins, so that only the correct remain, which is often only the sample skein. He is shown what mistake he has made, and he is told only to select skeins of the same hue as the specimen, although they may be lighter or darker. If his first error arose only from a misconception or want of practice in handling colours, he begins generally to understand what he has to do, and to do properly what is required of him.

2. Or else he selects and rejects immediately the test skein itself. This proves that he sees the difference of colour. He is then shown the test skein as the only correct one, and is asked to repeat the trial in a more correct manner. He is again put on the right track as just before, and the trial proceeds rightly, unless the error arose from a defect in colour sense. Many seem, however, to experience a natural difficulty in distinguishing between yellow-green and blue-green, or the dull shades of green and blue. This difficulty is, however, more apparent than real, and is corrected usually by direct comparison. If the method requiring the name of the colour to be given is used, a number of mistakes may be the result. If a skein of light green and light blue alone are presented to him, and he is asked to name them, he will often call blue green, and green blue. But, if in the first case, a blue skein is immediately shown him, he corrects his mistake by saying "this is blue," and "that green." In the last case the same thing happens *mutatis mutandis*. This is not the place for an explanation. It must suffice to say that the error is corrected by a direct comparison between the two colours.

(b.) Another process.—If the candidate place by the side of the sample a shade, for instance, of yellow-green, the Examiner places near this another shade, in which there is more yellow, or even a pure yellow, remarking at the same time that if the first suit the last must also. The candidate usually dissents from this. He is then shown, by selecting and classing the intermediate shades, that there is a gradation, which will diverge widely if logically carried out as he has begun. The same course is followed with colours of the blue shades, if the blue-green were first selected. He sees the successive gradations, and goes through with this test perfectly if his chromatic sense is correct.

To ascertain further whether he notices the tints of yellow and blue in the green, we can ourselves take the yellow-green and blue-green and ask him if he sees any difference in colour between them. We can judge by his answer of his sense with regard to these shades, and the object of this investigation is accomplished.

It results from all this that many who are finally considered to have a normal chromatic sense may occasionally cause embarrassment. In the main, the normal observer of this kind causes greater loss of time than the colour blind. It is astonishing to see with what rapidity the colour blind betray their defect. At least it is found, in the majority of the cases examined by us, that the first skein of wool selected from the pile by the colour blind in the first test was one of the "colours of confusion."

(B.) Interfering when the Candidate selects too few Wools.

Those who evince too great slowness also require the interference of the Examiner in another manner. We can lay aside here those cases in which, at the sight of the complex colours of the heap of wool, the candidate finds it difficult to select a skein resembling the sample in a collection where all the particular colours seem to differ from each other, and in consequence declares immediately that he can find none resembling the specimen. He is then told that an absolute resemblance is not demanded, and that no one asks impossibilities ; that time is limited, many are waiting, &c. But there are people who—from natural slowness, from being unaccustomed to such business, from fear of making mistakes, especially if they have been previously examined and been suspected of colour blindness, or from many other motives—proceed with the greatest caution. They do not even wish to touch the wool ; or they search, select, and replace with the greatest care all the possible skeins without finding one corresponding with the sample, or that they wish to place beside it. Here, then, are two cases : on one hand, too much action with the fingers, without result ; on the other, too little action. The Examiner is forced to interfere in both cases.

(a.) In the case of too much manual action, without corresponding practical result, the Examiner must be careful that the eye and hand of the candidate act simultaneously for the accomplishment of the desired end.

Some people forget that the hands should be subservient to the eye in this trial, and not act independently. Thus they are often seen to fix their eyes on one side while their hands are engaged on the other. This should be corrected, so as to save time and avoid

further labour. The candidate should be told to cross his hands behind his back, to step back a pace, and quietly consider all the skeins, and, as soon as his eye has met one of those for which he is looking, to extend his hand and take it. The best plan is to advise him to look first at the sample, and then at the pile, and to repeat this manoeuvre until his eye finds what he is looking for.

This plan generally succeeds when nervousness from over-anxiety causes his hands to tremble; but it is not always easy to induce him to keep his hands behind his back until the moment for taking the skein in question.

(b) In cases of great caution the trial is hastened if the Examiner come to the assistance of the candidate, by holding above the pile one skein after the other, and requesting him to say whether it resembles the colour of the sample or not.

In cases where anyone suspected of colour blindness has remained some time to see the trial of others, and where, as often happens, he has remarked the skeins belonging to a required shade, he may, of course, profit by it in his own trial. But this can be prevented by shuffling the skeins.

It may be regarded as an advantage of this method that it has at command a great variety of resources. We have by no means mentioned all; and yet many who have only read this description will probably reproach us with having devoted ourselves too much to details which seem to them puerile. But we believe that those who have examined the colour sense of a great number of persons, and acquired thereby considerable experience, will think differently.

We are convinced that time is saved by the means we have described, and a more certain result obtained; whilst a practised surgeon, who has become to a certain degree a *virtuoso*, will accomplish his object quicker and surer by such means than one who neglects them. Recent experience fully confirms this. All those who have familiarised themselves with this method, and have had experience with colour blindness, and of whose competence there can be no doubt, report, without exception, that it is to be fully depended on, the most practical and the best.

An advantage of the method was shown to be that those who were to be examined could be present and see each individual tested, without this interfering in the least with the certainty of the result. The individual test is even hastened thereby. The colour blind, and even the normal eyed who are not familiar with colours, are generally rather shy about being tested, in whatever way it is done. As the method, however, is carried out, they have more confidence. The majority are even amused. The old adage holds true here, that it is easier to find fault than to do it yourself. The surgeon, who watches not only the examined, but also those around, can often see from their faces how closely the latter observe the person being tested, when he takes out the wrong colours, as also when he neglects the right ones under his eye. This gives those looking on confidence and assurance, till their turn comes, when they appear as uncertain as before they were confident. There is something attractive in the process, stimulating the interest, and not without benefit.

From this we see that our judgment of a person's colour sense is made, not only by the material result of the examination, the character of the wools selected, but often also by the way the examined acts during the test. We should mention a very common manner of persons on trial, which, in many cases, is of great value in diagnosis. Often, in searching for the right colour, they suddenly seize a skein to lay it with the sample, but then notice it does not correspond, and put it back in the heap. This is very characteristic; and if an Examiner has often seen it, he can readily recognise and be assured that it is an expression of difficulty in distinguishing the differences in the colours. We frequently see this in the first test, with shades of greenish-blue and bluish-green. Here it means nothing important; but it is quite the reverse, however, when it concerns the grey or one of the confusion colours (1-5). Uncertainty and hesitation as to these colours, which the colour blind do not distinguish from the test colour, even when directly comparing them, is positive proof of mistake, implying defective chromatic vision of the complete colour blind type. No doubt the form of chromatic defect which we have called *incomplete colour blindness* exists in several kinds and degrees. This is not the place to further discuss our experience on this point; and, for the practical purpose we have in view, it is not necessary. As we have explained, there are, among this class, forms of colour blindness gradually approaching normal colour sense. How they are distinguished has been described. We designated them as possessing *feeble colour sense*.

It is, perhaps, not easy to detect these special forms by any other method, or even by our own; we therefore give the following as a means of so doing. The only way of getting at it is by determining at what distance the candidate can distinguish a small coloured surface. We have to deal, in fact, with a feeble colour sense, which does not prevent the colours from being distinguished, but only renders it difficult. We may suppose, in comparison to the normal, that the *feeble colour sense* is due either to a weaker response to the stimulation of the colour-perceptive organs of the retina, or else to a stimulation of a relatively smaller number of these organs. In either case this method would give us the same result, judging from our experience in testing the eccentric portions of the field of vision with the perimeter.

The method we here speak of shows us also the effect of habit and practice on the colour perception, and it is worth while to dwell on this point. It not unfrequently happens that a person who by test No. 1 has been noted "*incomplete colour blind*," after they know

know of their mistake and have practised themselves in distinguishing colours, will so comport themselves at a second trial that we have to simply mark them as of "feeble colour sense." The same will sometimes happen with test No. 2, and it is explainable by what we have said, namely, that between the complete lack of some one colour sense and the incomplete there is a series of gradations, and that in such cases practice would affect the result of examinations.

All the examples given prove that many seeming trifles and plans are of value in making the examination; amongst others the keeping the sample a little way off from the heap of worsteds, as also the removal of everything which can cause the examined doubt and uncertainty. We must not, therefore, let them do what many want to do, namely, hold a number of the worsteds in the hand at once. We must make the person being examined place each skein, as he takes it up, either with the sample or else back on the heap. Many who are not clear whether the skein is like the sample or not instinctively put the shades most resembling the test sample at the side of the heap towards it, and thus gradually form a little bridge, but which for correctness they will not vouch for. No such half measures must, however, be allowed.

NOTE C.

COLOUR Ignorance Test.

(1.) The object of this test is simply to ascertain whether the candidate knows the names of the three colours, red, green, and white, which it is important for every seaman to be acquainted with, and the test is to be confined to naming those colours. Object of test for colour ignorance.

(2.) One or two of the purest red and green skeins should be selected from the set of wools, and the candidate should be required to name their colours. He should also be required to name the colour of any white object, such as a piece of white paper. Manner in which the test is to be conducted.

(3.) If he answers correctly he should be considered to have passed the test. If he makes any mistake he should be tried with the lantern which was formerly used for colour tests, the plain glass and the standard red and green glasses being employed for the purpose. If he does not name these glasses correctly he should be reported as having failed to pass the test. Grounds on which candidates should be treated as having passed or failed.

(4.) The result of every test should be reported to the Registrar General of Seamen on the form Exn. 2, and to the Principal Examiner of Masters and Mates on the form Exn. 14, when the candidate is up for examination for a certificate of competency, and to the Registrar General of Seamen on the form Exn. 2a, when the candidate is up for examination in colours only. Result of tests to be reported.

All cases of failure should be reported to the Principal Examiner of Masters and Mates on form Exn. 17b.

NOTE D.

PORTS at which Examinations in Form Vision, Colour Vision, and Colour Ignorance take place.

Aberdeen.—Every Monday, by the Examiner of masters and mates.

Belfast.—Every Saturday morning, from 10 to 12 o'clock, by the Examiner of masters and mates.

Bristol.—Monday in examination week,* by the Examiner of masters and mates.

Cardiff.—Any day, by the Principal Officer of the Board of Trade. Monday in examination week, by the Examiner of masters and mates.

Cork.—Any day, by the Examiner of masters and mates.

Dublin.—Monday in examination week, by the Examiner of masters and mates.

Dundee.—Every Friday, Saturday, and Monday preceding the examination of masters and mates, by the Superintendent of the Mercantile Marine Office.

Glasgow.—Monday in examination week, by the Examiner of masters and mates.

Greenock.—Monday in examination week, by the Examiner of masters and mates.

Hartlepool,

* *i.e.*, the week in which masters and mates' examinations take place. See Appendix A. of the Regulations relating to the examinations of masters and mates.

Hartlepool, West.—Wednesday or Thursday in examination week, by the Examiner of masters and mates.

Hull.—Any day, by the Principal Officer of the Board of Trade. Saturday preceding the examination of masters and mates, by the Examiner of masters and mates.

Leith.—Any day, by the Superintendent of the Mercantile Marine Office.

Liverpool.—Every Friday and Saturday, by the Examiner of masters and mates.

London.—Every Friday and Saturday, by the Examiner of masters and mates.

Newport.—Monday in examination week, by the Examiner of masters and mates.

North Shields.—Second and fourth Tuesday in each month, by the Principal Officer of the Board of Trade.

Plymouth.—Every Saturday, by the Examiner of masters and mates.

Southampton.—Wednesday in examination week, by the Superintendent of the Mercantile Marine Office.

South Shields.—Monday in examination week, by the Examiner of masters and mates.

Sunderland.—Monday in examination week, by the Examiner of masters and mates.

Swansea.—Any day, by the Board of Trade officer. Monday in examination week, by the Examiner of masters and mates.

II.

SUPPLEMENTAL INSTRUCTIONS issued by the Board of Trade in connection with the foregoing Regulations.

(1.) *Foreign Officers' Service.*

WITH reference to the latter portion of paragraph 18 of the Regulations relating to the examinations of Masters and Mates, 1894, which exempts applicants, in certain special cases, from the requirements that officer's service must be performed with the requisite certificate, it is to be clearly understood that this exemption does not apply to foreign officers serving in foreign vessels.

Foreign officers who may be desirous of obtaining a British Certificate of Competency in the Mercantile Marine will be required to comply strictly, whatever may be their rank in the Mercantile Marine of their own or any other country, with the requirements in the first part of paragraph 18, viz., they must have performed their officer's service with the requisite British Certificate (*see* paragraph 17 of the Regulations) as specified in paragraphs 59, 62, and 84; and in Appendix S.

This service, however, may have been performed in foreign vessels, provided the applicant can produce satisfactory testimonials to conduct and character, and is able to prove that the service has been in the required capacities, and that during such service he has held a British Certificate of Competency of the rank required by the Regulations.

This rule will be strictly enforced on and after the 1st January 1896. Until that date each case will, as at present, be considered separately on its merits.

(2.) *Form and Colour Vision Tests.*

(1.) The Board of Trade have decided that, for the present, all cases of failure to pass the Form Vision test (*see* Note A. of the Regulations, Appendix T.), due to *short sight* only, and not arising from loss of form sense accompanying colour-blindness induced by disease or injury, are to be submitted to the Principal Examiner of Masters and Mates, London, for special consideration, and that the local Examiner must await his instructions before returning a candidate as failed.

(2.) To enable the Examiner to distinguish whether the defective form vision is due to short sight only, or is induced by disease, boxes of pellets will be supplied, by which all candidates who fail to pass the Form Vision test are to be examined. Instructions for conducting this examination are given below.

(3.) Should the candidate pass the pellet test, the form Exn., 17B., together with the remarks of the Examiner, is to be forwarded to the Principal Examiner for his instructions as to whether the candidate is or is not to be regarded as having failed in form vision.

(4.) Should, however, the candidate fail in the pellet test, thus indicating that the defective form sense is due to disease, &c., it will not be necessary to submit the case to London, but the Examiner should report the candidate as having failed in form vision as at present, and in forwarding the usual papers a description of the colours of the pellets incorrectly selected as matches in the respective tests, with any remarks, should be given on the form Exn. 17 C., in the space allotted for the incorrect wools.

Instructions for conducting the Pellet Test.

The pellet test is to be conducted in exactly the same manner as the test by Holmgren's wools (*see* Note B. of Regulations, Appendix T.).

(1.) A box of pellets of the same colours as most of the skeins of wools will be supplied, amongst which will be test pellets, corresponding to the

three test skeins, and of the same shade and colour. These will not be marked, but are easily distinguishable.

(2.) The pellets should be placed on a white plate, and the first test pellet should then be placed a little distance from the box on another white plate. The candidate should be required to pick out and lay by the side of the test pellet, all pellets of the same colour. The same should be done with the second and third test pellets, and the examination should proceed in the same way as the wool test.

(3) *Midshipmen's Service.*

With regard to paragraph 40 of the Regulations relating to the service of midshipmen in the Mercantile Marine necessary to qualify for examination for a second mate's certificate, the Board of Trade have decided that in the case of midshipmen who may not have been bound by indentures, as required by the paragraph in question, the whole of their service may notwithstanding be accepted as actual sea service under the Regulations, and as counting towards the service required for a second mate's examination, subject to the conditions that in every case such service shall have been continuous, and that the applicant shall have served at sea four-fifths of the time claimed as midshipman (*i.e.*, that he shall not have spent more than one-fifth of such time in home ports).

III.

REGULATIONS relating to the Examinations of Engineers under the Merchant Shipping Act Amendment Act, 1862.

Preliminary.

1. Under the provisions of the "Merchant Shipping Act Amendment Act, 1862." no "foreign-going steam ship,"* or "home-trade passenger steam ship,"* can obtain a clearance or transire, or legally proceed to sea, from any port in the United Kingdom, unless in the case of a foreign-going steam ship of 100 nominal horse-power or upwards, the first and second engineers are certificated engineers; the first possessing a "First-class Engineer's Certificate," and the Second possessing a "Second-class Engineer's Certificate," or a certificate of the higher grade; and in the case of a foreign-going steam ship of less than 100 nominal horse-power, or a home-trade passenger steam ship, the first or only engineer (as the case may be), have obtained and possess a "Second-class Engineer's Certificate," or a certificate of the higher grade.

Certain ships required to carry certificated engineers.
(s. 5, 1862.)

2. Every person who, having been engaged to serve as first or second engineer in a foreign-going steam ship of 100 nominal horse-power and upwards, or as first or only engineer in a foreign-going steam ship of less than 100 nominal horse-power, or in a home-trade passenger steam ship, goes to sea as such first, second, or only engineer, without being at the time entitled to and possessed of such a certificate as the Act requires, or who employs any person as first or second engineer in a foreign-going steam ship of 100 nominal horse-power and upwards, or as first or only engineer in a foreign-going steam ship of less than 100 nominal horse-power, or a home-trade passenger steam ship, without ascertaining that he is at the time entitled to and possessed of such certificate, for each offence incurs a penalty not exceeding fifty pounds.

Penalty on engineers serving without certificate;

and owner employing engineers without certificates.
(s. 5, 1862.)

3. The certificates of engineers are of two descriptions, viz., certificates of competency, and certificates of service; and of each description of certificate there are two grades, viz., "First-class Engineers' Certificates" and "Second-class Engineers' Certificates." There is also the honorary certificate "Extra First-class."

Descriptions and grades of certificates.

4. Certificates of competency will be granted to those persons who pass the requisite examinations, and otherwise comply with the requisite conditions. For this purpose Examiners have been appointed by the Board of Trade, and arrangements have been made for holding the examinations in the places and at the times named in the Appendix.† The Examiners are selected generally from the Engineer Surveyors of the port; but no Engineer Surveyor is to undertake the duty unless he receives special instructions from the Board of Trade. The office of the Chief Examiner of Engineers is the Board of Trade Office, 79, Mark-lane, London, E.C.

Certificates of competency granted to persons who pass requisite examinations.

5. The examinations will commence early in the forenoon on the days mentioned in the Appendix,† and will be continued from day to day until all the candidates who have then presented themselves, and whose names appear upon the Superintendent's list on the day of examination are examined.

Examinations continued till all the candidates are examined.

6. The

* By a "foreign-going ship" is meant one which is bound to some place out of the United Kingdom beyond the limits included between the River Elbe and Brest; and by a "home-trade passenger ship" is meant any home-trade ship employed in carrying passengers; and it is to be observed that *foreign steam ships, when employed in carrying passengers between places in the United Kingdom*, are subject to all the provisions of the Act, as regards certificates of masters, mates, and engineers, to which British steam ships are subject; Section 291 of the Merchant Shipping Act, 1854, and Section 5 of the Merchant Shipping Acts, &c. Amendment Act 1862.

† See Appendix A.

Application, how to be made.

6. The application for examination is to be made on form Exn. 3 which must be filled up at a Mercantile Marine Office. The Exn. 3 properly filled in, together with the candidate's indentures of apprenticeship, testimonials and discharges, must be lodged with the Examiner of Engineers not later than the day before the day of examination, except in the case of London and Liverpool.*

Testimonials required.

7. Applicants will be required to produce, in addition to the usual forms of discharge, satisfactory testimonials as to sobriety, experience, ability, and general good conduct for at least the twelve months immediately preceding the date of application to be examined, and without producing them no person will be examined. If the service has been on shore the testimonials must be signed by an employer, if at sea by the master and chief engineer.

8. In cases where a testimonial from the chief engineer, or from the master, is for any sufficient reason not obtainable, one may be submitted from the superintending engineer in place of that of the chief engineer, and one from the managing owner or secretary or chairman of a large company in place of that of the master, but in every such instance the testimonial must declare that the facts stated are in accordance with the reports made by the chief engineer or the master, as the case may be, or else that the facts are within the writer's personal knowledge.

9. As such testimonials may have to be forwarded to the office of the Registrar General of Seamen in London for verification before the candidate can be examined, it is desirable that they should be handed in, together with the form Exn. 3, as early as possible.

Testimonials of foreigners.

10. The testimonials of servitude of foreigners and of British seamen serving in foreign vessels, which cannot be verified by the Registrar General of Seamen, must be confirmed either by the Consul of the country to which the ship in which the candidate served belonged, or by some other recognised official authority of that country; or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case must be decided on its own merits; and if the sufficiency of the proofs given appears to be at all doubtful, the point must be referred to the Board of Trade.

Certificate as to age.

11. Should any doubt exist as to the age of a candidate, he will be required to produce a certificate of birth or baptism.

Foreigners to know English.

12. Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board a British vessel.

Verification of services by Registrar General of Seamen.

13. When necessary a statement of services verified by the Registrar General of Seamen can be obtained by applying to that officer upon payment of a small fee which is regulated by the amount of service required to be verified.

Verification of services, &c., by articles.

14. Services which cannot be verified by proper entries in the articles of the ships in which the candidates have served cannot be counted.

Service on a lake or river.

15. In addition to the required workshop time, service on a lake or river, in a steamer in which the aggregate piston area of the propelling engines proper amounts to at least 2,000 (two thousand) circular inches, will be accepted towards qualifying a candidate to be examined for a certificate of competency as follows:—

Two months of river or lake service, in a capacity not lower than that of third engineer, may be deemed equivalent to one month of sea service, provided that,

For

* At London applications for examination must be made on Fridays from 10 till 4, and on Saturdays from 10 till 2.

At Liverpool applications for examination must be made on Mondays and Saturdays during office hours.

For a second-class certificate, not less than three months of the qualifying service must be actual sea service, and that,

For a first-class certificate, at least six months of the qualifying service must have been at sea in a grade not below that of third engineer, where an engineer of a lower grade is carried. During the last 18 months of this service the candidate must have been in possession of a second-class engineer's certificate of competency.

16. Service performed on board auxiliary screw whalers and other vessels with auxiliary steam power in the capacity of engineer may be allowed to count towards qualifying candidates for examination for second-class engineers' certificates of competency to the extent of *one-half* the time the vessel is actually at sea, unless the candidate is able to prove a larger amount of time under steam, in which case he will be allowed to count the whole of such extended time.

Service in auxiliary screw steamships.

17. Service entered upon a ship's articles as having been performed in the capacity of assistant engineer must be supported by proof of the candidate having acted as second, third, or fourth engineer, as the case may be.

Assistant engineer.
8370—80.

18. The service required by the regulations to qualify a candidate for examination is to be regarded as referring to service in the foreign trade only. Service in the home or coasting trade must amount to at least half as much again as that required by the regulations, to make up for the time spent in port, *e.g.*, for every 12 months' service under the regulations, 18 months' service in the home or coasting trade will be required. In all cases the length of service is deemed to commence on the date of signing of the articles of agreement, and to end on the date of discharge.

Service in home or coasting trade.
Cir. 116—77.

15,836—76.

19. Service in the engine-room (afterwards referred to) for qualifying a candidate to be examined for a second-class engineer's certificate must be only in those capacities which afford opportunities of obtaining practical experience as an engineer; and service in the capacity of fireman, stoker, donkeyman, greaser, winchman, labourer, engineer's steward, or any other capacity than that of engineer taking watch on engines and boilers for propelling will not be accepted.

Service as engineer only accepted as qualifying service.
Cir. 129—78.

11,079—83.

20. Service as third and fourth engineer in foreign-going steamers, where more than three or four engineers, as the case may be, are carried, their names being all entered on the articles in their respective ratings, may be accepted equally with service as second engineer, to qualify a candidate for examination for a first-class engineer's certificate, provided he has, during the whole of such service, been in possession of a second-class engineer's certificate (Imperial, or under Order in Council), and provided also that he was regularly in charge of a watch. In the case of fourth engineers, however, 18 months of such service must be proved for every 12 months required by the regulations.

Service as third and fourth engineer.

Cir. 116—77.

269—85.

21. Service in a capacity below that of fourth engineer cannot be accepted as qualifying for any class of certificate unless the testimonials of the candidate explicitly certify that during such service he has been taking regular watch in the engine room, and that the chief engineer or superintending engineer considers him properly qualified by that experience to act as chief engineer of a foreign-going steamer of 99 horse-power nominal. *In any case, the applicant must prove that he has had the responsible charge of the engines or boilers on regular watch for at least 12 months of sea service, of which for not less than six months he must have been in charge of the propelling engines and rated on the articles not lower than fourth engineer.*

Service below the grade of fourth engineer.

22. Having "responsible charge" will be understood to imply, in regard to the engines, that the applicant, for the time specified, was on regular watch, the person responsible for carrying out the orders of the engine room telegraph, and, in regard to the boilers, that he was, similarly for the period specified, the person responsible for regulating the feeds.

23. When the workshop service has been performed in a place *where steam engines are not made*, and the class of work done is similar to that required in engine

Workshop service.

engine making, the service may be accepted with an additional year in the engine room; that is, three years' workshop service and two years in the engine room, of which one year must have been at sea. The approval of the Board of Trade must be obtained in every such case before the authority to receive a certificate is issued by the Examiner.

24. When the workshop service has been performed in a place *where engines are made*, and the department in which the applicant has been principally engaged is not "*fitting*" or "*erecting*," if the nature of the service be such as is useful training for an engineer, the Board of Trade may, on proper representation of the circumstances see fit to accept the service as qualifying along with subsequent experience, but in every such case the applicant must prove additional engine-room service as required above. The approval of the Board of Trade must likewise be obtained.

Service as second engineer where certificate not required.

10,005—84.

25. If a candidate has served in the engine room with a second-class certificate in the capacity of a second engineer in foreign-going steamships under 100 horse-power or in home-trade passenger steamships, which are not required by law to carry a certificated second engineer, his service may be accepted without reference to the vessel's horse-power, provided he has been on the ship's articles as second engineer, and produces certificates of discharge as second engineer, for the required period.

First-class certificates without second.

9490—76.

26. The Board of Trade may see fit to allow an applicant who, in consequence of service abroad, has been unable to obtain a second-class certificate, to be examined for a first-class certificate, although he has not obtained a certificate of the lower grade, provided he is able to satisfy them as to the satisfactory character of his services.

Unsuccessful candidates may in certain cases receive certificates for inferior grade.

27. In such cases (paragraph 26) or in cases where the candidate is already in possession of a certificate of service, should he fail to pass the examination for the higher grade, but passes the examination for the lower grade, he may receive a certificate accordingly, but no part of the fee will be returned.

Consequence of failure in such cases.

28. A candidate who, under the above regulation (paragraph 26), has been permitted to be examined for a first-class certificate without first obtaining a second-class certificate of competency or a certificate of service, and who fails in his examination in practical knowledge, may not be re-examined for a certificate of the higher grade until he has served 12 months as second engineer with a second-class engineer's certificate of competency as required by the regulations.

29. If the candidate fails altogether, *i.e.*, both in the examination for the lower as well as for the higher grade of certificate (paragraph 26), he may be re-examined for a *second-class certificate only*, subject to the usual regulations relating to failure.

Inaccurate statements of service.

30. It is provided by the Merchant Shipping Act, 1854 (Section 140), that every person who makes, or procures to be made, or assists in making, any false representation for the purpose of obtaining for himself or for any other person a certificate of competency, shall for each offence be deemed guilty of a misdemeanour,—the punishment for which is imprisonment, for any period not exceeding six months, with or without hard labour, or a penalty not exceeding 100*l.*

31. These provisions will be *strictly enforced* by the Board of Trade, and any candidate for a certificate of competency as first or second engineer, who shall, for the purpose of obtaining any such certificate, present to the Examiner any "application to be examined for a certificate of competency" (Exn. 3), or statutory declaration containing any false or designedly inaccurate statement of service, and any other person who shall make or prepare, or assist in making or preparing, any such false or inaccurate statement, will be *prosecuted*.

If after passing examination services are found to have been insufficient.

6172—78.

32. If after a candidate has passed his examination it is discovered, on further investigation, *e.g.*, by verification on the part of the Registrar General of Seamen, that his services are insufficient to entitle him to receive a certificate of the grade for which he has passed, it will not be granted to him; but, if the Board of Trade are satisfied that the error in the calculation of his services

did

did not occur through any fault or wilful misrepresentation on his part, the certificate may be issued to him, or he may be allowed to go up for re-examination without payment of further fee, when he has performed the amount of service in which he was deficient, as the Board of Trade may direct.

33. If, in such a case, the applicant's services are sufficient to entitle him to receive a certificate of a lower grade, provided as aforesaid he has not wilfully misrepresented the amount of his services, an inferior certificate may be granted to him, and the difference between the fee paid by him for the superior certificate and the fee payable for the inferior certificate may be placed to his credit.

Certificate of a lower grade may be granted on certain conditions.

34. In such a case when the applicant has by further service made up the time in which he was found to be short, he may be required, before he can receive the higher certificate, to be re-examined in all the subjects.

May have to be re-examined for certificate of higher grade.

Qualifications for Certificates of Competency.

35. Second-Class Engineer.—A candidate for a second-class engineer's certificate must be 21 years of age.

Qualification of candidate for second-class engineer's certificate.

(a.) He must have served an apprenticeship to an engineer for three years at least, and prove that during the period of his apprenticeship he has been employed on the making and repairing of engines: or, if he has not served an apprenticeship, he must prove that for not less than three years he has been employed as a journeyman mechanic in some factory or workshop* on the making or repairing of engines.† In either case he must also have served one year at sea in the engine room as an engineer on regular watch in the foreign, home, or coasting trade‡; or

(b.) He must have served at least four years at sea in the engine room as an engineer on regular watch in the foreign, home, or coasting trade.‡

(c.) He must be able to give a description of boilers, and the method of staying them, together with the use and management of the different valves, cocks, pipes, and connections.

(d.) He must understand how to correct defects from accident, decay, &c., and the means of repairing such defects.

(e.) He must understand the use of the barometer, thermometer, and salinometer, and the principles on which they are constructed.

(f.) He must state the causes, effects, and useful remedies for incrustation and corrosion.

(g.) He must be able to state how a temporary or permanent repair could be effected in case of derangement of a part of the machinery, or total break down.

(h.) He must write a legible hand, and understand the first five rules of arithmetic, and decimals, and their application to questions about consumption of stores, and full capacities of tanks and bunkers, the duty of pumps, and the direct strains in engines and boilers.

(i.) He must be able to pass a creditable examination as to the various constructions of paddle and screw engines in general use; as to the details of the different working parts, external and internal, and the use of each part.

(j.) He must possess a creditable knowledge of the prominent facts relating to combustion, heat, and steam.

36. First-Class Engineer.—A candidate for a first-class engineer's certificate must be 22 years of age.

Qualification of candidate for first-class engineer's certificate.

37. In

* No period of service in a drawing office can be allowed to count for more than six months' workshop time.—14,784-84.

† These may be either land or marine engines.

‡ See paragraph 18 as to service in home or coasting trade.

37. In addition to the qualification required for a second-class engineer,

(a.) He must either possess, or be entitled to, a first-class engineer's certificate of service; or, in the event of his not being so possessed or entitled, he must have served for one year at sea as second engineer in a foreign-going steamship or a home trade passenger steamship, with a second-class engineer's certificate of competency valid in the United Kingdom, or for two years at sea as second engineer, with a second-class engineer's certificate of service; or, having served one year at sea as second engineer with a second-class engineer's certificate of service, he must show, in addition, at least, six months' service as chief engineer in a vessel required by law to carry a least one engineer holding a certificate. See also paragraph 20 as regards service as third and fourth engineer.)

The Examiner should therefore be satisfied that an applicant for a first-class engineer's certificate has not only been *in possession* of a second-class certificate for the period above stated, but that he has actually *served* for such periods in the engine room, at sea with a second-class certificate, in the capacities referred to, and that his name has been entered in the articles of agreement accordingly. (See also paragraph 26.)

(b.) He will be required to make an intelligible hand sketch, or a working drawing of some one or more of the principal parts of a steam-engine; and to mark in, without a copy, all the necessary dimensions in figures, so that the sketch or drawing could be worked from.*

(c.) He must also be able to take off and calculate indicator diagrams.

(d.) He must be able to calculate safety-valve pressures, and the strength of the boiler shell, stays, and riveting.

(e.) He must be able to state the general proportions borne by the principal parts of the machinery to each other, and to calculate the direct stress, the torsional stress, and the bending stress in round bars, and the direct stress and the bending stress in rectangular bars with given loads.

(f.) He must be able to explain the method of testing and altering the setting of the slide valves, and to sketch about what difference any alteration in the slide valve will make in the indicator diagram, and also the method of testing the fairness of shafts, and of adjusting them.

(g.) He must be conversant with surface condensation, superheating, and the working of steam expansively.

(h.) His knowledge of arithmetic must include the mensuration of superficies and solids and the extraction of the square root, and the application of these rules to questions relating to the power, duty, and economy of engines and boilers, and to the stresses in rods, shafts, and levers of the engine.

Examination for an Extra or Honorary Certificate.

38. An extra first-class engineer's examination is voluntary, and is intended for such persons as wish to prove their superior qualifications, and are desirous of having certificates for the highest grade granted by the Board of Trade.

39. The extra examination may take place on any of the days fixed for these examinations subsequent to the candidate's having passed as first-class engineer.

40. The extra examinations are held once in every three months only, and only at ports where examinations of engineers are ordinarily conducted. The examination extends over several days. Notice must be given by the applicant at least one week before the day on which the examination begins. According

to

to present arrangements these examinations will begin on the second Tuesday in January, April, July, and October, in each year.

41. If the candidate passes, he will be entitled to receive the extra certificate at once, without being required to have served two years at sea as first-class engineer with a first-class engineer's certificate of competency, as formerly.

(a.) The candidate must possess a thorough knowledge of the construction and working of the different forms of marine engines and propellers in all their parts, and be so far acquainted with the elements of theoretical mechanics as to comprehend the general principles on which the machine works, and to illustrate his knowledge of these principles by numerical examples.

(b.) He must possess a knowledge of the theory of strain and stress sufficient to be able to deduce the ordinary rules for the bending of rectangular bars and for the twisting and bending of round bars.

(c.) He must be acquainted with the principles of expansion and the modern theory of heat, and be able to solve, with the assistance of his own books or without books, according as the examination papers may be set, questions in economy and duty in connection with engines and boilers.

(d.) He must understand how to apply the indicator, and to draw the proper conclusion from the diagrams, and to construct the approximate diagrams for any given data.

(e.) He must be able to produce, without a copy, a fair working drawing of any part of the machinery, with figured dimensions fit to work from.

(f.) He must understand the principles of the action of the screw propeller and the paddle-wheel, and must be able to estimate numerically the effect in speed of ship and consumption of fuel due to any alteration in pitch, diameter, revolutions, &c., &c.

(g.) He must be able to give a description of boilers and the methods of staying them, and must show that he possesses a knowledge of the theoretical principles which regulate their construction, and that he is able to calculate the strength of the boiler shell, stays, and riveting.

(h.) He must understand the general nature of the strains and stresses produced by the steam pressure, and by the expansions due to unequal temperatures in boiler shells.

(i.) He must have a knowledge of safety-valve construction, and the principles involved in determining the size of the safety-valve, and the construction of spring-loaded and dead-weight valves.

(k.) He must possess a thorough knowledge of the theory of combustion; the chemical composition of fuels; the evaporative duty of fuels of given composition; the production of draught; the effect in regard to economy, safety, and wear and tear, of increasing or of diminishing the proportion of heating surface, of grate-bar surface, of area of section of air passages, of area of water surface, of steam space capacity and water capacity.

(l.) He must be able to explain the formation of scale and the precipitation of salt, and the precautionary means adopted in respect thereto, with jet condensers, and with surface condensers.

(m.) He must understand the general principles involved in the construction of the barometer, thermometer, salinometer, and steam and vacuum gauges.

(n.) He must be familiar with the general results obtained from past experience in relation to corrosion, pitting, and galvanic action in boilers, and the use of zinc and of soda in boilers.

(o.) He must give a variety of illustrations of how defects have arisen from accident, imperfect construction, or deterioration, and how these defects might have been prevented, and the best way of repairing such defects.

(p.) He must possess an intelligent knowledge of the properties of the lubricants, boiler cements, and india-rubber in general use in steamers.

(q.) He must understand the causes of spontaneous combustion and the formation of explosive gases in coal holds, and the precautionary measures proper to prevent accidents from these causes.

(r.) The candidate *may*, with his application to be examined, send in questions set by himself and worked in his own way, without books. These must be forwarded to the Chief Examiner of Engineers. This is to afford him an opportunity of showing to the best advantage what he knows. Questions based upon these examples will be afterwards put before him to test the soundness of that knowledge.

(s.) To give scope for testing the information and reasoning power of the candidate, the questions may be framed upon any well-understood objects, such as are employed in text books to illustrate the action of some principle in engineering science.

Service in the Royal Navy.

42. Engineers and assistant engineers of the Royal Navy are at liberty to apply for certificates of service, and to be examined for certificates of competency in the Mercantile Marine; but the Lords Commissioners of the Admiralty have directed that the applications of officers on the active list should be made through their commanding officers, and that the applications of officers on half pay should be made to the Secretary of the Admiralty, who in either case will forward the application to the Board of Trade.

43. The conditions on which certificates of service are issued are stated at page 85.

44. As regards the grades of certificates of competency for which officers of the Royal Navy can be examined, the Board of Trade rule is—"First-class assistant," or "assistant engineers" of the Royal Navy may be examined for second-class engineers' certificates of "competency"; "engineers" of the Royal Navy for first-class certificates of competency.

45. Temporary active service as engineer in the Royal Navy counts in applications for certificates of competency in the same way and to the same extent only as in the case of the service of Mercantile Marine Engineers, that is to say, so much of the applicant's time as is spent in active service at sea, or in a ship commissioned for sea service, counts as "sea service"; and so much of the applicant's time as is spent in active service on board ship in harbour, and not commissioned for sea, counts as workshop time. See paragraph 35, sub-section (a).

46. Service performed in the capacity of engine-room artificer may count to qualify a candidate for examination for a second class engineer's certificate of competency in the Mercantile Marine. If the service has been on shore it will count only as workshop time. If in the engine room at sea the candidate must prove that during such service he had charge of an engine-room watch.

Fees.

47. Candidates for examination, in making their application on form Exn. 3, will be required to pay the examination fees before any step is taken, whether by inquiring into their services or testing their qualifications, &c. No part of the fee will under any circumstances be returned to them, but should it be found that their service is not sufficient to entitle them to be examined, or that their testimonials are unsatisfactory, they will be allowed to present themselves for examination without paying any further fee, when they have fulfilled the requisite service, or are able to produce satisfactory testimonials, as the case may be.

48. The fee for examination must be paid to the Superintendent of the Mercantile Marine Office in the Cash Office. In any case in which a candidate offers money to any other officer than a Superintendent, and in any place but in the Cash Office, the candidate so offering money will be regarded as having committed an act of misconduct, and will be rejected, and not allowed to be examined for twelve months, either at the port where the offence was committed or at any other port.

49. If a candidate fails in his examination, *no part of the fee he has paid will be returned to him.*

Engineers.
113—85.

Grades.

Temporary service
in the Royal Navy.
107—80.

Engine Room
Artificer.
9553—78.
10,494—83.

Fees to be paid by
applicants for
examination.
(s. 133.)

50. The fees are as follow :—

	£.	s.	d.
Second-class engineer's certificate - - - - -	1	-	-
First-class engineer's certificate - - - - -	2	-	-
First-class engineer's certificate, if already in possession of a second-class certificate of competency, either granted by the Board of Trade or by the Government of a British Possession under Section 8 of the Merchant Shipping (Colonial) Act, 1869 - - - - -	1	-	-
Extra first-class engineer's certificate, first attempt - - - - -			Nil.
Extra first-class engineer's certificate for every subsequent attempt - - - - -	1	-	-

Colonial Certificates.

51. Under Section 8 of the "Merchant Shipping (Colonial) Act, 1869," and Colonial certificates. subject to certain conditions, Her Majesty may, by Order in Council, authorise the Governments of British Possessions to grant certificates of *competency*, which shall be of the same force as certificates of competency granted by the Board of Trade.

52. This advantage has already been extended to certain of the certificates granted by the Governments of the following British Possessions, viz. :—

Colony.	Certificates.		Date of Order in Council.	Date from which Order in Council takes effect.
	By whom granted in Colony.	Description.		
Victoria - - -	* Marine Board - -	First-class Engineer; Second-class Engineer.	30 Mar. 1871	4 Jan. 1870
Canada - - -	The Minister of Marine and Fisheries.	First-class Engineer; Second-class Engineer.	10 Nov. 1886	1 „ 1887
New Zealand - -	Marine Department -	First class Engineer; Second-class Engineer.	9 Aug. 1872	1 May 1872
New South Wales -	Marine Board - -	First-class Engineer; Second-class Engineer.	30 Aug. 1873	18 June „
Malta - - -	The Head of the Government.	First-class Engineer; Second-class Engineer.	12 May 1874	12 May 1874
South Australia -	Marine Board - -	First-class Engineer; Second-class Engineer.	12 „ „	12 „ „
Tasmania - - -	Board of Examiners under authority of the Governor.	First-class Engineer; Second-class Engineer.	12 Feb. 1876	1 April 1876
Bengal - - -	Lieutenant-Governor -	First-class Engineer; Second-class Engineer.	27 June „	27 June „
Bombay - - -	Governor - - -	First-class Engineer; Second-class Engineer.	11 July 1877	11 July 1877
Queensland - - -	Marine Board - -	First-class Engineer; Second-class Engineer.	26 Mar. 1878	1 Oct. „
Hong Kong - - -	Governor - - -	First-class Engineer; Second-class Engineer.	31 Dec. 1883	1 Jan. 1884
Straits Settlements -	Governor - - -	First-class Engineer; Second-class Engineer.	17 Mar. 1888	1 Aug. 1888

* The Steam Navigation Board was superseded by the Marine Board on the 21st December 1888. See Order in Council of 23rd November 1893.

53. The holder of an engineer's Colonial certificate of competency not granted under the "Merchant Shipping (Colonial) Act, 1869," or of an engineer's certificate of competency granted after examination on board one of Her Majesty's ships, who may be desirous of being examined for an Imperial certificate of the same grade, must prove that he has performed the amount of service required by the regulations to entitle him to hold such Imperial certificate. He must also produce satisfactory testimonials as to character for at least the 12 months immediately preceding his application to be examined. Colonial certificates not granted under "Merchant Shipping (Colonial) Act 1869."

54. No fee will be demanded for the first attempt. If, however, a candidate fails to pass his examination the usual fee will be demanded on any subsequent attempt.

General Rules as to Examinations.

55. All books necessary for the use of candidates under examination will be provided by the Board of Trade, and applicants are not permitted to take into the examining room. Candidates not to take books, &c., into the examining room.

the examining room any book, paper, document, or memoranda of any description whatever.

56. Candidates will be allowed in the time allotted to cancel any part of their work, and when required additional papers will be supplied by the Examiner, but they will not be allowed to work out the problems on a slate or on waste paper. The additional sheets must be attached to and form part of the examination papers.

57. Candidates for first-class certificates have to pass an examination in rough working drawing, which may, in the candidate's option, be either hand sketches clearly dimensioned and complete in the necessary *views* and *sections*, or drawings to a scale. Drawing boards and T squares will be provided by the Board of Trade, but the applicants will have to bring with them any drawing instruments they may require.*

Punishment for
breaking rules.

58. In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another during the time of examination, he will be regarded as having failed in his examination, and will be turned back for three months, in the same manner as if he had failed in the practical part of the examination; and no part of the fees he may have paid for examination will be returned to him. This penalty also applies to any breach of paragraph 55.

Leaving examina-
tion room.

59. If a candidate leaves the room before answering any question which has been given to him, he cannot afterwards be permitted to answer it, but the Examiner may substitute other data, or another question.

Questions from
form Exn. 15a.

60. All applicants presenting themselves for examination will be required to give written answers to ten questions selected from form Exn. 15a,* "Elementary questions for the first examinations of engineers for certificates of competency, and of masters and mates for certificates in steam." These questions are intended to furnish a record to some extent of the candidate's knowledge at the time of his examination, and also to induce the candidates to pay more attention to their handwriting and spelling.

61. The form Exn. 15b, on which these answers will be written, contains also some questions as to the experience of the applicant, to be answered by him in writing.

62. Examiners may add to their *vivâ voce* questions on the practical management of steam engines and boilers any of those contained in Exn. 15a.

63. If at the expiration of the time allowed the candidate has worked out and answered correctly the whole of the questions set to him, and given satisfactory answers in the *vivâ voce* examination, he will be declared to have passed.

64. If at the expiration of the time allowed he has not worked out the whole of the questions set to him, but if the result of the *vivâ voce* examination taken in connection with the answers to such of the questions as he has worked out are sufficient to satisfy the Examiner that the applicant is competent to take charge of engines of 100 nominal horse-power or upwards, he will be declared to have passed.

65. In other cases he will be declared to have failed.

Extra certificates.

66. Candidates for examination for extra first-class certificates may use the examination room book of logarithms. The Examiner will be careful to observe that such books are not used to conceal memoranda prepared for these examinations. No other books will be allowed unless the question set specially states that a book may be referred to.

(Exn. 15.)

67. A report of the examination, and the examination papers, will be forwarded to the Chief Examiner of Engineers on the form (Exn. 15).

68. If

*See Appendix C.
†See Appendix B.

68. If the candidate passes he will receive the form Exn. 16, which authorises the Superintendent of the Mercantile Marine Office to which it is addressed by the Examiner to issue the certificate to the candidate, whose testimonials, &c. will be returned at the same time. It is therefore important that the port of destination of the certificate should be the same on both the form Exn. 16 and the form Exn. 3. If circumstances should make any alteration necessary, the Examiner should see that it is made in both forms, otherwise delay in the issue of the certificate may be caused.

Notification of having passed will be given to successful candidates. (Exn. 16.)

Failure.

69. If the applicant fails in practical knowledge he may not present himself for re-examination until he can produce proofs of **THREE MONTHS'** further service at sea as engineer from the date of failure. If he fails in arithmetic or drawing only, he may come up again at any time.

Re-examination in case of failure.

Certificates of Service.

70. Every person who, before the 1st April 1862, had served as either first engineer in a British foreign going steamship of 100 nominal horse-power and upwards, or who has attained or attains the rank of engineer in the service of Her Majesty or of the East India Company, is entitled to a first-class engineer's certificate of service; and every person who, before the above-mentioned date, has served as second engineer in any British foreign-going steamship of 100 nominal horse-power or upwards, or as first or only engineer in any other steamship, or who has attained or attains the rank of first class assistant engineer in the service of Her Majesty, is entitled to a second-class engineer's certificate of service.

Certificates of service.

(s. 9, 1862.)

71. Applications for certificates of service must be made on the printed form Exn. 22, to be obtained *free of charge* of the Registrar General of Seamen, Custom House, London, E.C., or of the Superintendent of any Mercantile Marine Office.

(Exn. 22.)

APPENDIX A.

EXAMINATION DAYS AT

Places.	Days.
Aberdeen - - -	3rd Tuesday in each month.
Belfast - - -	4th Tuesday in each month.
Bristol - - -	3rd Tuesday in each month.
Cardiff - - -	2nd and 4th Tuesday in each month.
Cork - - -	2nd Tuesday in each month.
Dublin - - -	1st Tuesday in each month.
Dundee - - -	2nd Tuesday in each month.
Falmouth - - -	4th Tuesday in each month.
Glasgow - - -	2nd and 4th Tuesday in each month.
Greenock - - -	1st Tuesday in each month.
Hartlepool, West - - -	2nd Tuesday in each month.
Hull - - -	1st and 3rd Tuesday in each month.
Leith - - -	1st Tuesday in each month.
Liverpool - - -	Monday in each week.
London - - -	Wednesday in each week.
Plymouth - - -	2nd Monday in each month.
Shields, North - - -	Wednesday in each week.
Southampton - - -	3rd Tuesday in each month.
Sunderland - - -	3rd Tuesday in each month.

N.B.—The examination days are liable to occasional alteration.

Extra-First-Class.

According to present arrangements the examinations for extra certificates will begin at the different ports on the

Second Tuesday of January,
 " " April,
 " " July,
 " " October,
 in each year.

APPENDIX B.

Form Exn. 15a.

ELEMENTARY Questions for the First Examinations of Engineers for Certificates of Competency; and of Masters and Mates for Certificates in Steam.

To Engineer Examiners.

Examiners will require all candidates to fill up a form, Exn. 15b., of which a copy is attached, and they will forward the same to the Board of Trade, along with the report of the examination.

Masters and mates may cancel questions A, B, and C, but they should fill up the form for questions D, E, F, and G, as evidence of their practical knowledge.

For the present the questions for both classes of engineers, and also for masters and mates passing a voluntary examination in steam, will be taken from the same book of "Elementary Questions"; and candidates for first-class certificates are expected to show their superiority by giving answers more complete than those of the other candidates.

The arithmetical questions for engineers, and the *viva voce* examinations for all candidates, will be continued as heretofore, and failure in the elementary questions will be treated as failure in arithmetic.

The numbers of the questions for each examination will be sent from the London Office, and they are not to be communicated to the candidate until his examination commences.

New editions with alterations will be issued from time to time.

Exn. 15b.

Port	Class for which examined.
Date	Candidate's Name.

A. Where and how long did you serve in works at the making or at the repairing of engines, and in what capacities?

B. How long have you served as fireman or trimmer?

C. How long have you served in the engine-room at sea, and in what capacities?

D. With what descriptions of engines have you served at sea,—paddle or screw, or both, jet condensing, surface condensing, or non-condensing engines, compounds, trunks, inverted cylinders, or horizontal engines? What size were the engines?

E. With what descriptions of boilers have you served at sea,—rectangular or cylindrical, wet-bottomed or dry-bottomed, multitubular, sectional or flue boilers?

F. What engine defects have come under your notice at sea, what caused these defects, and how were they remedied? Give the names of the steamers for verification.

G. What boiler defects have come under your notice at sea, what caused these defects, and how were they remedied? Give the names of the steamers for verification.

ELEMENTARY Questions. Second Edition.

1. What parts of an engine are generally made of wrought iron?
2. What parts of an engine are generally made of cast iron?
3. For what parts of an engine is steel sometimes used?
4. What parts of an engine are generally made of brass or gun metal?
5. Where is "white metal" sometimes used? On account of what property possessed by it is it adopted? What objection is there to its more general use?
6. For what parts is Muntz metal sometimes used? Is it malleable? For what properties is it valued?
7. What difference is there in the composition of cast iron, of wrought iron, and of steel?

8. How

8. How can cast iron, wrought iron, and steel be distinguished from each other?
9. What are the different properties of cast iron, of wrought iron, and of steel?
10. What is meant by the terms "breaking stress," "proof stress," "safe working stress"?
11. What is the cohesive strength, or breaking stress, of good ordinary wrought iron?
12. Tempering steel; how is it done, and in what order do the colours come?
13. What is case-hardening?
14. Which of the common metals or alloys can be forged and which of them are brittle or "short"?
15. What is meant by "welding"? Which of the common metals can be welded?
16. The expansion of metals by heat; give examples of this in the engine and in the boiler.
17. In the construction of cylindrical marine boilers for what parts have the plates to be worked hot? When the material is steel what precautionary treatment of these plates is afterwards necessary?
18. What is double riveting? In what parts of cylindrical marine boilers is double riveting employed? In which of the shell seams is it most necessary?
19. What is "caulking," and how are seams prepared for caulking?
20. Describe the different ways of fastening the ends of the main stays of a boiler. What are the merits of, or objections to the different plans?
21. What strain per square inch is allowed on boiler stays?
22. Describe a riveted stay, and state where such stays are commonly used.
23. Where are thin plates to be looked for in a boiler as it wears, and how is the thinness to be detected?
24. How are boiler tubes fixed? What are "stay tubes," and how are they secured?
25. Where is it generally that boiler tubes leak? How is this defect repaired? What are the causes of this leaking?
26. What are the causes of cracked tube plates? Where are the cracks situated? How are they repaired?
27. What is the difference between a "dry uptake" and a "wet uptake"? Which requires most repair? Why? Where have you seen a wet uptake?
28. What is a superheater? What is its construction? What valves are on it? There is sometimes a gauge glass on it; what is that for?
29. What parts of a marine tubular boiler are first injured by shortness of water?
30. Where are angle irons sometimes used in the construction of a boiler, and where are flanged plates used?
31. Priming; to what causes is it attributed? What means are applied to prevent it? What evils may be produced by it?
32. Funnel draught; what makes it? What checks it?
33. Flame sometimes seen at the top of the funnel; what causes this appearance? Is it beneficial or is it detrimental? Why so?
34. A blast pipe; what is its construction? Where is it placed? For what is it used?
35. How many bottom blow-off cocks are generally fitted to each boiler, and why are they so fitted?
36. Blow-off cocks are sometimes fitted with a spanner guard; for what purpose is this? Describe how the guard is formed.
37. Test cocks or water-gauge cocks; where are they placed? At what heights? Must the cocks themselves be at those heights? What provision is made for cleaning these cocks should they ever become choked? When there are no test cocks how is the height of the water ascertained?
38. What is a dead-weight safety valve? Of what are the rubbing surfaces formed? How is a lock-up valve arranged to admit of lifting it or of turning it round, and to prevent adding to the weight?
39. About what area of safety valve is now required by the Board of Trade? What area was formerly required and on what ground has that been altered? What is the effect of suddenly opening a safety valve when steam is up? To about what extent do safety valves rise when blowing off without being eased by hand?
40. Spring-loaded safety valves; what advantages have they that are not possessed by dead-weight valves? What are the disadvantages as compared with dead-weight valves?
41. Of what pieces does a glass water gauge mounting consist? How does it act? Where is it placed? At what height? Is it liable to derangement? How is its working tested?
42. Glass water gauges have sometimes pipe connections top and bottom; what is the object of this arrangement? Should there be cocks at the extremities of these pipes?
43. Describe a Bourdon steam gauge. Some gauges have an inverted syphon pipe below them; what is its use?
44. Why is a small cock sometimes put on the pipe leading to a steam gauge? Where should it be placed, and what error might be made by omitting to use it?
45. Do steam gauges indicate the total pressure of the steam, or only a portion of that pressure? What is the pressure measured from?
46. What is meant by the salting of the boiler? How is this prevented? What is the

the density of ordinary sea water? How is the density ascertained? What is the difference between the formation of scale and the salting of the boiler? What is the maximum density at which boilers should be worked at sea?

47. Scum cocks and pipes; how are they arranged? Where are they placed? At what height in the boiler? When are they used? When must they be shut? Neglect of these cocks leads to what dangers?

48. Scale, of what does it consist? Where is it most objectionable? How is it removed? How is its formation prevented? What evil effects are produced by it?

49. What is a Salinometer? Of what does it consist? How does it act? How is it graduated? Can it be used at any temperature indiscriminately?

50. What harm may be done through the check valve of one of a set of boilers being defective while under way? How would you work to avoid this harm?

51. How is the leak from a split tube stopped in a boiler at sea? Describe the operation.

52. What is the use of dampers? Where are they fitted? When should they be used?

53. When there are no dampers fitted what is used instead? What evil to the boiler is sometimes attributed to this? When the heating surfaces are clean does this occur?

54. Describe the piston of a steam cylinder, with its different rings and their uses. There are generally round pieces let in flush on one side of a piston; what are they? How are these pieces fixed?

55. Cylinder drain cocks; what is their use? There is sometimes a valve upon each cock; what purpose does it serve?

56. Cylinder escape valves; of what do they consist? How protected? How regulated? When are they most needed? To what danger do they expose the engineer? What precaution is sometimes used to obviate this danger?

57. What is a compound engine? What different kinds are there for screw steamers, in respect to the number and arrangement of their cranks and cylinders? What is a triple expansion engine?

58. What is link motion? What are some of its advantages? In modern engines for the screw propeller, when there is no link motion, what takes its place?

59. What is a separate expansion valve? Why is it not fitted to all engines? What effect has an expansion valve upon the starting and upon the reversing of the engine?

60. What arrangement is applied to reduce the friction of a slide valve? To what is the friction due?

61. Describe a loose eccentric; how does it act? In what engines is the loose eccentric still employed?

62. What is the travel of the eccentric rod? How is it measured on the eccentric? What is the travel of the slide valve when the link motion is in mid gear, and the engine still moving?

63. What are "double beat valves"? Why are they not generally used for safety valves? Are they ever used instead of the slide valve? What objections are there to their use?

64. What is a circulating pump? Is it always worked by the main engine? Give an example from your last steamer of the three water temperatures generally noted by careful engineers.

65. An air valve is sometimes fitted to a circulating reciprocating pump; what purpose does it serve?

66. What is the difference between a bucket air-pump, a piston air-pump, and a plunger air-pump?

67. Whether are double-acting air-pumps made with plungers, with pistons, or with buckets?

68. What is an air-pump trunk? When is it necessary? How is it attached to the bucket?

69. What class of air-pump requires both foot and delivery valves, and in what other class can either of these valves be in some cases dispensed with?

70. When under way, when the air-pump bucket is at the top of its stroke, at what height is the water in the condenser?

71. With a surface condenser and a single acting air-pump, what is the effect of a leaky foot valve, and what is the effect of a leaky bucket when there is also a foot valve?

72. Air-pump pet cock or valve; where is it placed? How does it act? What is its object? Does it in every case reduce the effective capacity of the pump? Is it equally applicable to double-acting pumps?

73. At what temperature is the hot well worked? What is the effect of higher temperatures? What is the effect of lower temperatures? What limits the lowness of temperature? Has a very low temperature any disadvantages?

74. Bilge injection with common condensers; what are the fittings required? When is it used? What precautions are necessary in using it?

75. When surface condensers are used, what takes the place of the bilge injection? To what is the connection made? How is its valve formed? Why is this necessary?

76. What are the practical guides to the proper amount of opening of the inlet valve for the circulating pump?

77. Feed-

77. Feed-pump pet cock or valve ; where is it placed ? What is its use ? How does it act ? Is it always a necessary fitting ?

78. What are some of the ways of fastening the ends of surface condenser tubes ? About what size and about what thickness are condenser tubes ? What parts of a surface condenser are made of brass ?

79. What is a blow-through valve or cock ? To what is it attached ? There is sometimes a valve that when opened admits steam from the slide valve casing to the exhaust port ; what is its use ? To which cylinder is it fitted ?

80. What is a snifting valve ? What is its use ? Where is it placed ? Can it be placed too high ? Can it be placed too low ? At what height should it be placed ? Was there one in your last steamer, if so, where was it ? Why are snifting valves generally omitted now ?

81. What connections are generally fitted to the donkey pump, and to what services can it be applied ?

82. When the engines are stopped with steam up, what are to be shut and what are to be opened ?

83. How is an engine heated up before starting ? What precautionary examinations are made before starting ?

84. What is an interceptor or catch-water ? Where is it fixed, what is its construction, how does it act, and what attention does it require ?

85. Describe an air-pump bucket, with its valve or valves and its packing. Of what are the valves generally made ?

86. Of what materials are air-pump rods made ? Why so ?

87. What is the racing of the engine ? When does it occur ? What danger attaches to it ? What is done to prevent it ?

88. What are marine governors ? What is their general construction ? How do they act ?

89. What is meant by the "pitch" of a screw propeller ? How is it measured ?

90. Explain the difference between a "right hand" and a "left hand" propeller, and state how each of them revolves.

91. What is the slip of a screw propeller ? How is its amount expressed in figures ?

92. Which of the valves about engines and boilers have to be worked by hand, which of them work self-actingly, and which are worked by the motion of the engine ?

93. Why is soda sometimes put into a boiler, and how is it put in when under way ? What is the kind of soda used ?

94. Tallow cups for cylinders were sometimes made with two small cocks, or with only one small cock, or with one large hollow plug cock, or with one small cock and a valve ; which of these is suitable for a high-pressure cylinder, and which for the cylinder of a condensing engine ? Describe how the cup with only one small cock is used. What is now generally used instead of these ? How has this change come about ?

95. Does a cylinder-escape valve, self-acting, allow all the water to escape ; if not, how much is left in the cylinder ?

96. What is a "steam lubricator" (sometimes called an impermeator) ? Explain its action ; to what part of the engine is it connected ; whether will throwing cold water over it make it work faster or slower ? Describe the one used in your last steamer.

97. A common paddle wheel ; of what is the centre made ? Of what are the arms formed ? What is the form of the bolts which attach the floats to the arms ? How are the arms attached to the centres ?

98. Why have some paddle wheels one or more cast-iron floats in each wheel ? With what engines are these most required ? At what part of the circumference are they placed ?

99. Why are paddle-wheel floats sometimes made of different breadths in the same wheel ? With what description of engine is this most needed ? Where are the broad floats placed, and where are the narrow floats placed in the circumference of the wheel ?

100. What difference is there between a radial paddle wheel and one with feathering floats ? What is the object of feathering floats ? Are all the eccentric rods attached in the same way, and are they all of the same form ?

101. Whereabout is the centre of the eccentric of a paddle wheel with feathering floats placed ? In that case are the feathering levers on the striking face or on the back of the float ? When the paddle shaft has an outer bearing, how is the eccentric made ?

102. Of what materials are the working surfaces of a paddle wheel with feathering floats ? Are they all lubricated ? With what ?

103. What is a "disconnecting paddle engine" ? At what place is the disconnecting effected ? How is it accomplished ? In which of the cranks of a disconnecting engine are the crank pins fixed ?

104. Whether is link motion valve gear or the loose eccentric generally used for disconnecting paddle engines ? For what steamers are disconnecting paddle engines frequently employed ?

105. What are expansion joints ? Where are they necessary ? What attention do they require ? Of what should the working surfaces be made ?

106. What omission in the construction of expansion joints may lead to a serious accident when steam is first applied ? How is this prevented in the construction of a steam trunnion pipe for an oscillating engine ?

107. Describe an oil cup with a syphon worsted. How is the worsted arranged? How is it cleaned? How far down the tube does it extend?
108. Describe a thrust bearing; which of the surfaces wears? Why are there sometimes a number of oil tubes for one thrust bearing?
109. What parts of a screw shaft are generally covered with brass? Why is this necessary? About what thickness is the brass?
110. What is the stern tube or screw shaft pipe? Why is a pipe of such a length required? Of what is it made? How is it fixed at each end?
111. What is a lignum vitæ bearing? How is the wood fitted? Where is such a bearing generally used?
112. How is a screw propeller fixed on the shaft? What means are used to prevent its getting loose at sea?
113. Where are sluice valves placed? What large sluice valve is there in almost all screw steamers? From what position should this valve be worked? Why so? What attention should it receive?
114. With a condensing engine; what valves or cocks are on the skin of the ship in the engine room and in the stokehole?
115. What are the necessary fittings of a marine boiler?
116. With a surface-condensing engine, what cocks or valves are opened some time before the engine is started so as to be ready for starting whenever the order is given.
117. What is a steam jacket? What cocks are on it? In what engines are jackets most generally used? Do they require to be felted?
118. What parts of an engine or its fittings should be felted or otherwise protected from radiation?
119. What are the small cylinders sometimes fitted on the slide valve casing cover of vertical engines? Explain their action. To what are they connected by a pipe? Why so?
120. Name the principal pipes in connection with the engines and boilers of a steamer, and state to what the ends of these pipes are connected.
121. Through what cocks or valves, pipes and chambers does the water pass on its way from the sea inlet rose plate to the water space of the boiler, with a jet condenser?
122. Through what cocks or valves, pipes and chambers does the circulating water of a surface condenser pass?
123. Through what cocks or valves, pipes and chambers does the steam pass from the boiler until it is in the form of water in the hot well?
124. Name the pieces of the engine through which the pressure of the steam is transmitted from the piston to the screw propeller. Name them in the order in which they act.
125. What is an air-vessel? How does it act? At what parts of an engine or of its fittings are air-vessels generally applied?
126. What is the construction of a mud-box? Where should mud-boxes be placed? Why are they necessary? How should the space be divided by the rose plate, and why?
127. What is a trunk engine? When used in a horizontal engine for a right-hand screw propeller at which side of the vessel should the cylinders be placed? Why so?
128. What is an oscillating engine? For what steamers are oscillating engines generally adopted? Why? How is the steam conveyed to and from the slide valve casing?
129. Of what parts does the valve motion gear of an oscillating engine consist?
130. For what have geared engines sometimes been used? Of what were the cogs of the large wheel made?
131. At what part of a screw steamer is the pressure that propels it applied to the hull?
132. At what part of a paddle steamer is the pressure that propels it applied to the hull?
133. About how much fuel per indicated horse-power per hour is required by modern steam engines, common, compound, and triple expansion?
134. What is the explanation of the economy of the surface condenser?
135. What is the construction of a surface condenser? Of what are its tubes made? How are they fixed? How are they kept tight? What is done with a split tube?
136. Where do surface condensers foul? How are they cleaned?
137. What non-conducting substances are employed to prevent radiation, and how are they applied?
138. In the construction of smoke-box doors and of dry uptakes, what provision is made to lessen the amount of radiation?
139. How can the formation of black smoke be prevented? Describe smoke-preventing apparatus.
140. What is meant by "circulation" in a boiler, and what are the results of defective circulation?
141. What means are sometimes adopted to improve the circulation in a boiler?
142. By what arrangement is the circulation promoted in a "haystack" boiler?
143. Describe a ship's side air-pump discharge valve, in what respects does it sometimes differ from a common stop valve, and what attention does it require?
144. What

144. What is the construction of a feed escape valve, to what is its discharge connected, and how is its loading regulated?

145. When there is no feed escape valve what is the arrangement of the feed valves or cocks?

146. What is the measure of a horse power? How is indicated horse power ascertained?

147. Has "nominal horse power" a fixed meaning? What is the use of this expression? What is generally taken as the measure of one-horse power nominal?

148. What is "back pressure" in a cylinder? About how much is it in each of the cylinders in your last steamer? Is excessive cushioning ever a trouble under certain conditions in modern engines? Say when and why and in which cylinder this occurs.

149. What is meant by "speed of piston"? About how much is the speed of piston in modern marine engines?

150. What is "atmospheric pressure"? What is its average amount? What instrument tells this amount?

151. What is "gross pressure" or "absolute pressure"? What pressure is it that is shown by the steam gauge?

152. What is meant by "cutting off" steam? How is it done? What part of the valve regulates the cut off?

153. What is a piston slide valve? Describe its construction. Why are such frequently employed in place of the common slide valve? What is a great drawback to the use of these valves?

154. What fixes the time of closing the exhaust? After the exhaust is closed and before the port opens for steam, what becomes of the steam that is in the cylinder?

155. What is the "lead" of the valve? What is its object? About what amount is it?

156. What is the "cover" or "lap" of the valve? What is its object? About what proportion of the stroke of the valve is it made?

157. What is the "exhaust cover" of a slide valve? What is its effect upon cushioning and upon exhaust?

158. What is "minus cover" or "minus lap" on the exhaust? What is its effect upon the exhaust and upon cushioning?

159. What is "cushioning" or "compression" in a steam cylinder? How is it affected by the amount of cover or of minus cover there may be upon the exhaust? How is it affected by the exhaust pressure?

160. What is "mean effective pressure"? How is its amount ascertained?

161. What is a dial vacuum gauge? What is its construction? For what is it used? About what amount should it show when the engine is working all right? What effect has the variations it indicates on the performance of the engine?

162. Does the vacuum gauge enable you to tell what pressure there is in the condenser, or must you have recourse also to the barometer to arrive at that? How would you ascertain the actual amount of back pressure there is in the condenser?

163. What is a barometer? What is its construction? Is a barometer sometimes used instead of a vacuum gauge? In what respect does the weather barometer differ from the vacuum gauge barometer?

164. The common vacuum gauge and the common steam gauge, in which of them are the graduations marked from atmospheric pressure? Does either of them tell what is the true actual pressure in the boiler or in the condenser?

165. Do steam and vacuum gauges vary with the variations of the weather barometer? When the weather barometer varies from 29 to 31 how much will the vacuum gauge vary and how will that affect the working of the engine? Why so?

166. Vacuum is generally stated as so many inches. What is meant by, say, 20 inches vacuum? What does that tell us about the absolute pressure of the vapour then in the condenser?

167. From what depth will a pump draw water? Is there any limit? Why?

168. What is vacuum? Can vacuum move a piston? When the temperature of the water in the condenser is 212° , what is the greatest degree of vacuum there can then be in the condenser?

169. What is a thermometer, its construction? What is the property of matter that is the principle of its construction? What temperatures are regularly noted by careful engineers?

170. What is the temperature of (1) melting ice, (2) of boiling water, (3) of steam about 60 lbs. pressure by the steam gauge, (4) of steam about 100 lbs., and (5) of steam about 150 lbs., also (6) of smoke in the funnel, and (7) of water in the hot well?

171. What is meant by the "conduction" of heat? Give examples of it in the boiler and in the engine.

172. What is meant by the "convection" of heat? Give examples of it in the boiler and in the engine.

173. What is meant by "radiation" of heat? Give examples of it in the boiler and in the engine.

174. Which is convection, which is radiation, and which is conduction in the following cases:—(1) Heat from the glowing fuel to the furnace crown. (2) Heat passing from one side of the furnace crown plate to the other. (3) Heat passing from the steam pipes in the engine room. (4) The heat of evaporation?

175. What are the effective heating surfaces of a marine boiler ? What is an objection to vertical heating surfaces ?

176. What parts of a marine engine are exposed to danger when the temperature is below freezing point ?

177. What precautions are necessary in cold climates when the temperature is below freezing point ?

178. State as many ways as you can by which a boiler might not get its full feed ; that is, a boiler, or one of a set of boilers, gets short of water although the feed valve is open its proper amount ; to what causes might this be due ?

179. Of what are furnace bars generally made ? About what thickness are they at top ? About what space is between them ? Whether are the bars put further apart for Newcastle coal or for Welsh coal ?

180. Which burns faster, Newcastle coal or Welsh coal ? Which is the flaming coal ? Which makes most smoke ?

181. About how many tons of steam coal will be burnt per day in four furnaces, each 3' 0" wide, and of about the usual length ? On what grounds do you say so ?

182. About how many tons of steam coal will be burnt per day with good compound engines to drive an ordinary steamer of 40 ft. beam 10 knots an hour by steam alone ? On what grounds do you say so ? What percentage more coal would be required to propel the same steamer one knot faster ?

183. About how many tons of steam coal will be burnt per day with a good compound engine, surface condensers, the low pressure cylinder 70 inches diameter, doing average work ? On what grounds do you say so ?

184. A pair of inverted cylinder direct acting engines, there is a liner half an inch thick between the ahead eccentric rod and the eccentric strap, in overhauling the engine this piece is lost and forgotten ; what difference will its omission make in the working of the engine, on the admission, on the cut off, and on the exhaust of the steam ? Which will take place earlier and which later, distinguishing between the up stroke and the down stroke ?

185. A pair of inverted cylinder direct acting engines driving a right-hand screw ; on which of the crosshead guide bars is the pressure greatest in the up stroke, and on which in the down stroke ?

186. A screw propeller is getting loose, it has a little play on the shaft, sideways on the key or feather ; how will this show in the engine room ?

187. How would you prove whether the centre line of the trunnions of an oscillating cylinder be fair with the centre line of the main shaft ?

188. How can the fairness of a line of screw shafting be tested without lifting the shafts ?

APPENDIX C.

FORM Examination 17.

EXAMINATION in Rough Working Drawing for a First-Class Engineer's Certificate of Competency.

1. The regulations of the Board of Trade in regard to the qualifications of a candidate for a first-class engineer's certificate of competency specify that :—

“ He must be able to make rough working drawings of the different parts of the engines and boilers.

“ He must be able to state the general proportions borne by the principal parts of the machinery to each other.”

2. In accordance with these clauses, a candidate for a first-class certificate is required to make a rough working drawing of the parts specified on the other side of this leaf. A mechanic who has been some years in charge of marine engines and boilers ought by this time to have familiarly in his mind the general construction of at least one set of engines and boilers, say that set he was last with. Fine drawing is not expected, and in the proportions of the parts a wide margin will be allowed ; absurd dimensions will be failure in practical knowledge.

3. The drawing must, however, be practically a working drawing, giving a sufficient number of views to show the parts fully—sections, plans, or elevations, just as the candidate would require to be supplied to him if he had to make the parts to the design of another person.

4. A clear hand sketch showing the construction completely, and fully dimensioned, will be accepted if the candidate prefers this alternative.

5. A portion only of the parts specified may be accepted in place of the whole, if that portion is sufficient to show that the candidate has a good practical idea of the construction of the parts, and a fair notion of their general proportions or dimensions.

6. Candidates are hereby cautioned not to put on paper what they have not fully considered, and deliberately intend to be understood, as their statement of what they know about the construction of any part required.

7. The

7. The statements given in by a candidate may be in themselves, apparently, of little importance, but, as sample material from which the state of the candidate's knowledge of engines and boilers is to be inferred, every detail which is glaringly inconsistent with a sound knowledge of the use of the part, or in which an essential consideration has evidently been overlooked, is an important element in the description which the candidate is giving of his own qualifications.

8. The candidate is advised not to begin more than he can clearly finish in the time allowed. An important object in this part of the examination is to ascertain whether the candidate can be trusted to mark all necessary dimensions upon a sketch or a drawing. The test of this is, practically, the making of the part from the sketch without having to supply additional dimensions, and without measuring the drawing. To prove this ability the candidate must fully dimension the parts shown in his sketch or drawing, notwithstanding that the parts may be correctly drawn to scale. A drawing is fully dimensioned when no part of it is left to the option of the party who is to work to the drawing.

9. To prevent misunderstanding, however, when the candidate has been led into showing more of the details than he has time fully to finish, he should name, in the statement on the other side, the particular parts which he has fully dimensioned.

10. All dimensions should have lines and darts, to indicate distinctly the points between which the dimensions are given.

11. Beware of writing cross dimensions upon centre lines, or upon longitudinal dimension lines. This is not an order but a recommendation.

12. The candidate is not expected to design anything, he has merely to sketch or draw something with which he is expected to be already familiar.

13. Pencil in nothing after half-past three; all the dimensions, the figures, and the darts must be inked in; employ the remaining time in examining the drawing and in inking in any figures which may have been before overlooked, and in checking the dimensions.

14. Make sure that you will have sufficient room on the drawing sheet to show all the necessary views. You can have another sheet of drawing paper if necessary. All the paper used must be forwarded with the drawing.

15. Fill in and sign the following statement.

(Specimen.)

FORM Examination 17a.

SUBJECT for Examination in Rough Working Drawing. (Read the foregoing general Instructions.)

A common slide valve with its spindle. Show also an outline section of the ports at the cylinder face. Show the provision for connecting the slide valve to the spindle.

The candidate is requested to fill up the following, and to attach this paper to his drawing.

STATEMENT by the Candidate.

The accompanying drawing, made by me this day, without referring to any document, and without the assistance of any person, is intended by me to be sufficient for the new construction of the parts above described to fit the places of similar parts which are to be removed. The construction is similar to what I have been with in the steamer , but the dimensions may be different.

The diameter of the cylinder is

The stroke of the piston is

The stroke of the valve is

The cover at top end on steam side is

The cover at bottom end on steam side side is

The lead at top is intended to be

The lead at bottom is intended to be

The inside cover is + or —

The thickness of the face of valve is

The thickness of the body of valve is

The greatest opening for steam will be

That gives an area equal to one

The opening for exhaust when the crank is on the top centre is

That gives an area equal to th of piston.

The length of the connecting rod is

The valve will cut off steam on the down stroke at

The valve will cut off steam on the up stroke at

The candidate may omit this part if he chooses.

The parts fully dimensioned, in ink, are

Dated at this day of 189 .

Applicant.

